

# **Chapter 7**

## **Integration with RCRA and Other Environmental Laws**

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## **Note to the Reader**

On February 16, 1993, EPA promulgated a portion of the proposed Subpart S rule as a final rule (see *Corrective Action Management Units and Temporary Units; Corrective Action Provisions; Final Rule*, 58 FR 8658, Tuesday, February 16, 1993). This final rule sets forth the requirements for establishing corrective action management units (CAMUs) or temporary units during RCRA corrective actions. The specific requirements for CAMUs and temporary units under the final rule differ significantly from the requirements of the proposed rule (see 55 FR 30842-30844, July 27, 1990). Rather than delay publication of this guidance, the DOE Office of Environmental Guidance has chosen not to incorporate these changes into this guidance. Therefore, the discussions of CAMUs and temporary units appearing in this document are based solely on the proposed Subpart S rule. A copy of the final CAMU and temporary unit rule is provided as an appendix to this guidance. A summary of the major provisions of the rule is provided below.

The final rule does not change the most important benefit of establishing a CAMU, namely, remediation wastes (a new class of wastes established in this rule) generated during corrective action can still be disposed of in a CAMU without triggering the land disposal restrictions (LDRs) or minimum technology requirements (MTRs). However, the final rule does make several significant changes in the requirements for CAMUs and temporary units. Briefly, these changes include:

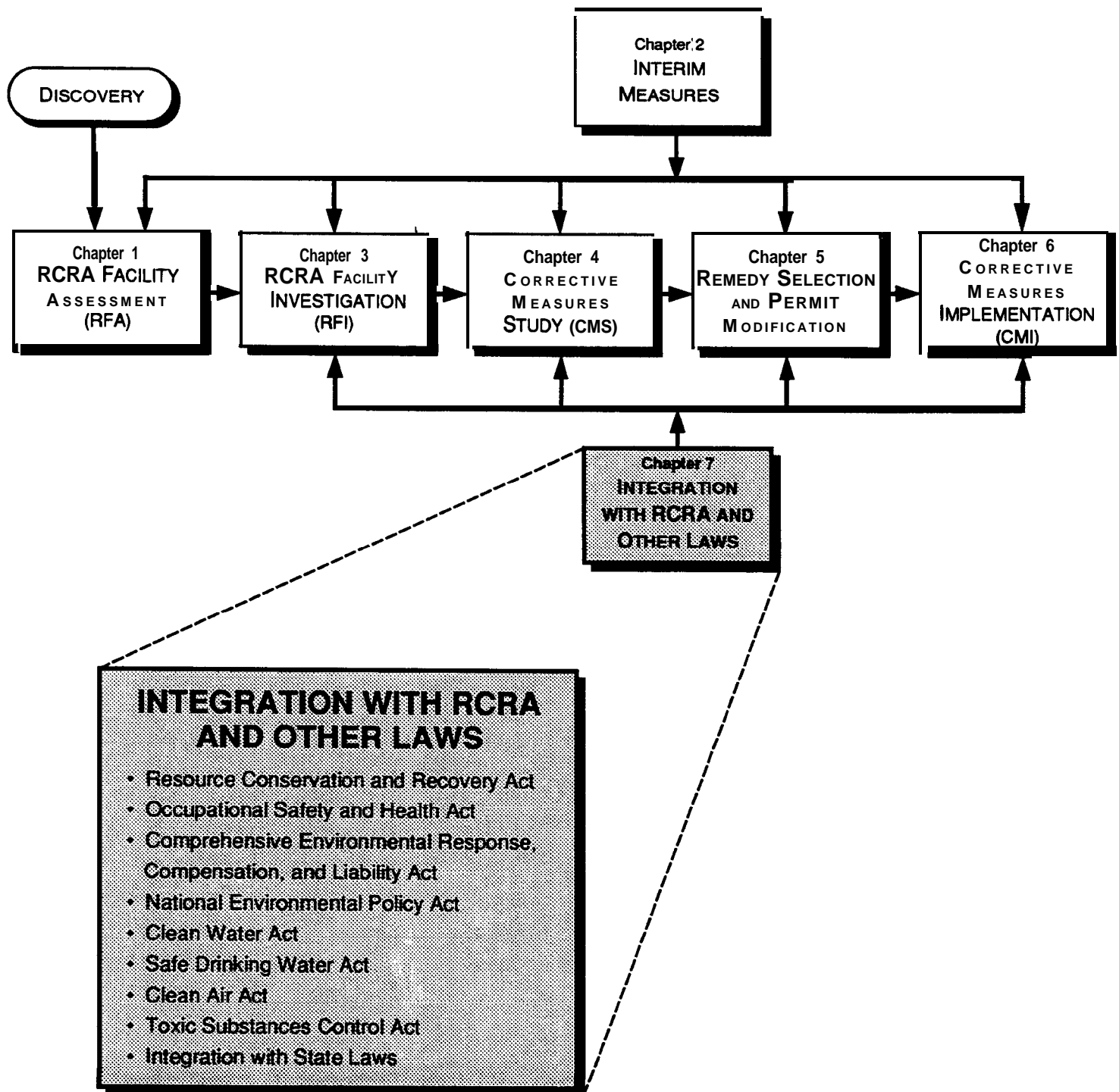
- CAMUs are no longer limited to contiguous areas of contamination, but are now linked primarily to where remediation wastes are managed; that is, designation of CAMUs is now related to the function and purpose they serve in facilitating management of remediation wastes during cleanup rather than to the areal extent of contamination.
- Establishing a new class of wastes called remediation wastes. Only remediation wastes can be managed in a CAMU or temporary unit.
- Permitting disposal of remediation wastes, generated at any location within the boundaries of a facility, in a CAMU.
- Creating a set of specific decision factors that must be considered when establishing CAMUs or temporary units.

## **Note to the Reader**

(continued)

- Establishing regulations for permits, permit modifications, orders, or order modifications establishing CAMUs or temporary units that include: (1) specific elements that must be included; (2) documentation requirements for the decision; and (3) requirements for public participation in the process.
- Establishing requirements for designating regulated units (i.e., land-based units such as landfills, surface impoundments, or waste piles) as CAMUs.
- Setting out requirements for closure of CAMUs.
- Limiting the designation of temporary units to tanks and container storage units.
- Increasing the permissible life of a temporary unit from 180 days to 1 year.
- Establishing specific requirements for granting extensions to the operational time limit placed on temporary units.
- Providing specific details on how the CAMU and temporary unit final rule will be implemented in States that are: (1) not authorized for the base RCRA program; (2) authorized for the RCRA base program, but not for corrective action; and (3) authorized for corrective action.

# RCRA Subpart S Corrective Action Process



# Introduction

A facility conducting RCRA Corrective Action must comply not only with the specific requirements of the proposed Subpart S rule, but also with other RCRA requirements and the requirements of other Federal and State environmental laws. In many cases, compliance with the requirements of other environmental laws requires actions such as obtaining permits, controlling emissions, protecting workers, and complying with other standards during investigation and remediation.

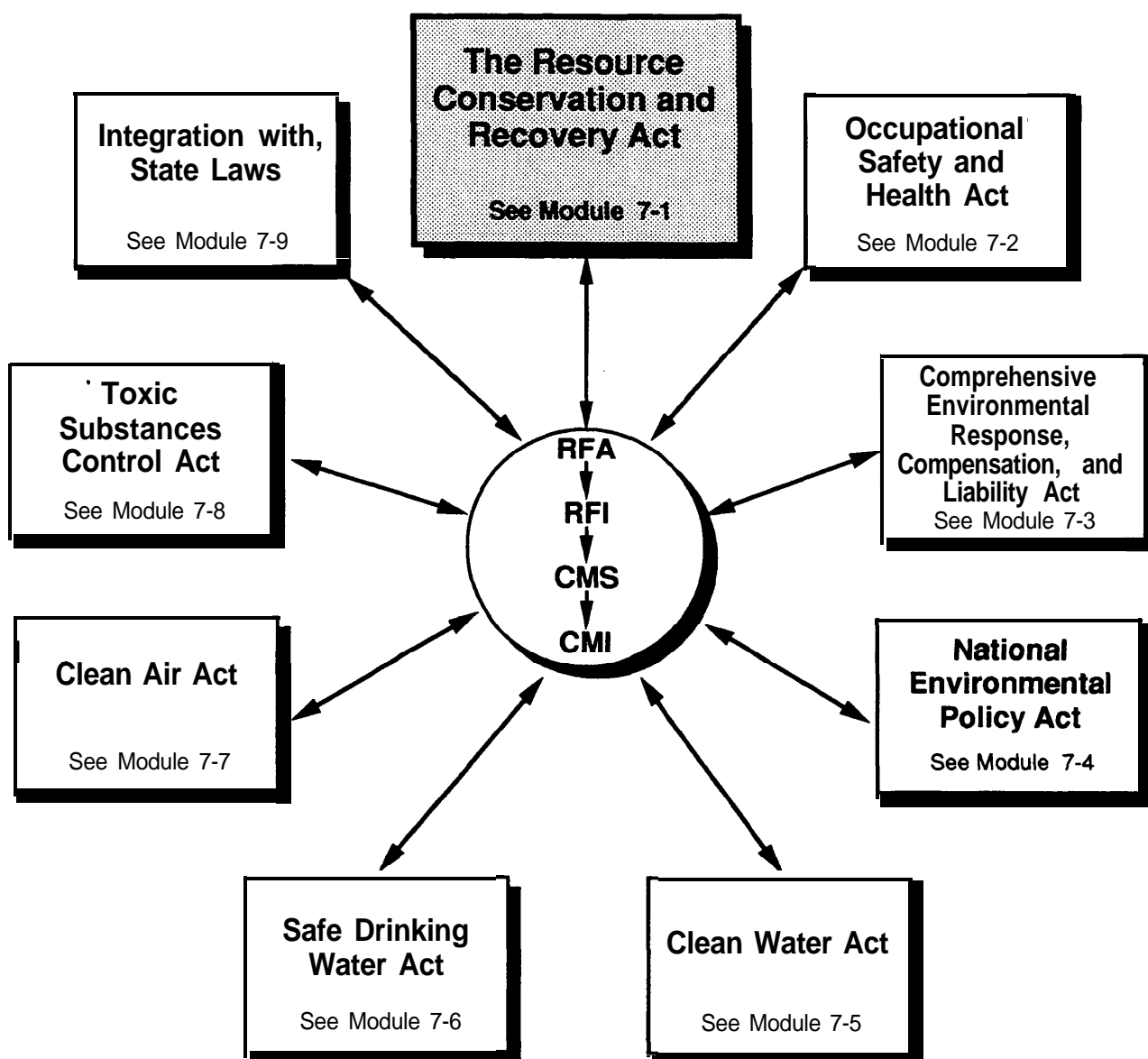
This chapter is not intended as a complete guide to compliance with other environmental laws. The chapter provides only an overview of some of the more important requirements for compliance with other Federal environmental laws as well as providing information of corrective action in States with RCRA authorization. In many cases, States have enacted laws which are more stringent than the Federal laws. It is important for a facility conducting a RCRA Corrective Action to consult with persons knowledgeable and experienced in compliance with the applicable laws and regulations. This is especially important during the Corrective Measures Study (CMS) and Corrective Measures Implementation (CMI) phases of RCRA Corrective Action. Selection and implementation of a corrective measure usually require consideration of, and in many cases, compliance with other laws and regulations. For example, if a facility with groundwater contamination is required to implement a pump-and-treat air stripping system to remove volatile organic compounds, the implemented corrective measure may need to comply with the requirements of the Clean Air Act to control volatile emissions. In addition, a facility conducting a RCRA Corrective Action should coordinate with other EPA programs (e.g., Air, Water) and any State and local authorities to ensure that any actions taken while conducting a RCRA Corrective Action are within established technical, administrative, and procedural requirements.

The modules in this chapter address integration of RCRA Corrective Action under the proposed Subpart S rule with the following:

- Other RCRA requirements;
  - Generator and Transporter Requirements
  - Waste Characterization
  - Corrective Action under Subpart F
  - Land Disposal Restrictions
  - Subtitle D
  - Public Participation and Community Relations
  - Closure and Post-closure
  - Underground Storage Tank Program

- The Occupational Safety and Health Act;
- The Comprehensive Environmental Response, Compensation, and Liability Act;
- The National Environmental Policy Act;
- The Clean Water Act;
- The Safe Drinking Water Act;
- The Clean Air Act;
- The Toxic Substances Control Act; and
- State laws.

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## Chapter Seven - Integration with RCRA and Other Environmental Laws

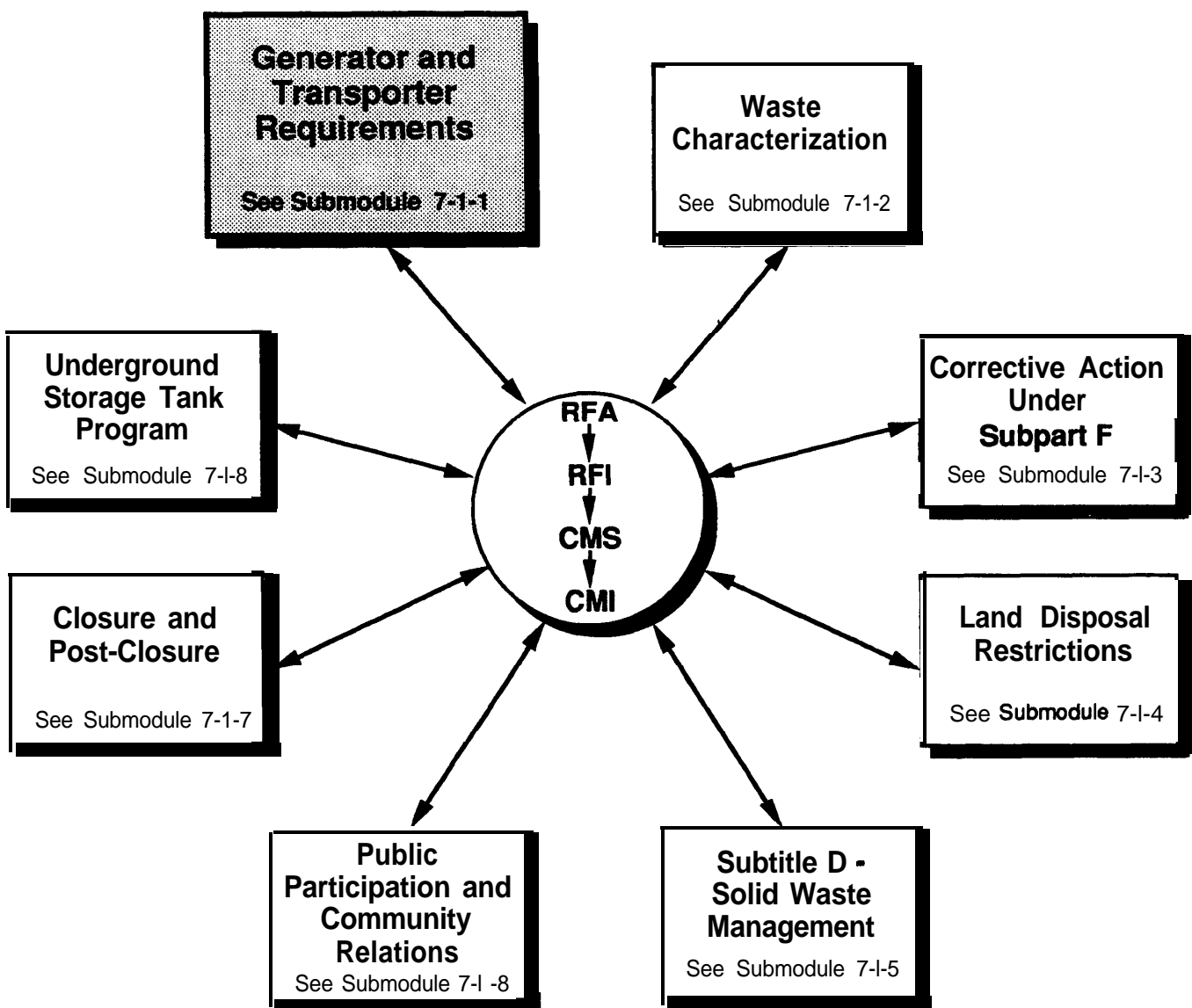


# Module 7-1: Resource Conservation and Recovery Act

A facility conducting RCRA Corrective Action is already involved in compliance with RCRA through the permitting, interim status, and corrective action processes. However, a facility conducting corrective action must also comply with other RCRA requirements, such as the standards for generators of hazardous waste, management of solid waste, or closure. This module discusses the important aspects of RCRA compliance during corrective action including:

- Generator and Transporter Requirements;
- Waste Characterization;
- The Groundwater Protection Program established under 40 CFR §264 - Subpart F and 40 CFR §265 - Subpart F;
- The Land Disposal Restrictions;
- Management of Solid Waste under Subtitle D;
- Public Participation and Community Relations;
- Closure and Post-closure; and
- The Underground Storage Tank Program

Each of these areas of RCRA compliance is discussed in the following submodules.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws**  
**Submodule 7-1-1 - Generator and Transporter Requirements**

# Submodule 7-1-1: Generator and Transporter Requirements

While conducting the RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS), and while implementing the corrective measure, the facility may be generating both hazardous and solid wastes. Facilities conducting RCRA Corrective Action must comply with the regulations under 40 CFR Part 262 (generator standards) and 40 CFR Part 263 (transporter standards) for hazardous waste management.

Under the proposed 40 CFR §264.551(c) of the Subpart S rule, there is one important exemption from the hazardous waste management standards of 40 CFR §§261 and 262. This exemption allows an area representing a contiguous, broad area of contamination (which may also include within its perimeter one or more land-based SWMUs) to be designated a corrective action management unit (CAMU). The designation of an area as a CAMU allows the movement of hazardous waste within the unit during remediation without triggering the requirements for transporting hazardous waste, the land disposal restrictions, or the minimum technology requirements for a new or lateral expansion of a unit.

Under 40 CFR Part 262, generators of hazardous waste must:

- Obtain an EPA Hazardous Waste Generator Identification Number, and if required, a State Hazardous Waste Generator Number, to ship, treat, store, or dispose of hazardous wastes offsite (a permitted facility should already have an EPA Identification Number) (40 CFR §262.12);
- Determine if the residues are a non-hazardous solid waste (subject to RCRA Subtitle D requirements) or a hazardous waste (subject to RCRA Subtitle C requirements) (40 CFR §262.11)<sup>15</sup>;
- If the wastes are hazardous wastes, determine if the wastes are listed or characteristic wastes and if the wastes are radioactive mixed wastes (40 CFR §262.11(b) and (c));
- Determine the requirements for the treatment, storage, or disposal of the waste (e.g., applicability of the land disposal restrictions) (40 CFR §262.11(d));

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<sup>15</sup> Refer to the DOE Office of Environmental Guidance (EH-231) Graphic Guidance document titled *The Definition of Solid and Hazardous Waste Under RCRA (1992)* for further information.

- Keep up-to-date records of:
  - The type and quantity of hazardous waste generated *per calendar month* (40 CFR §262.34);
  - Any training programs conducted by the facility (40 CFR §262.34(a)(4));
  - All safety procedures for the facility;
  - The identity and quantity of wastes shipped offsite, and the location to which the wastes were shipped (40 CFR §262.20); and
  - The actual Uniform Hazardous Waste Manifests prepared when shipping waste offsite and returned by the receiving treatment, storage, or disposal facility (TSDF) (40 CFR §262.20).<sup>16</sup>
- Use proper containers, storage practices, and labels on all containers of hazardous waste (40 CFR §262.30 and 264.33);
- Adhere to the following onsite storage requirements (40 CFR §262.34):
  - Hazardous waste can be accumulated in tanks or containers at a facility (without a TSDF permit or interim status) for up to 90 days for generators, and 180 or 270 days for small quantity generators.
  - Hazardous waste must be clearly labeled as hazardous waste, employees must be trained in handling hazardous wastes, and all the facility must comply with the applicable technical and administrative requirements of 40 CFR §264 (interim status facilities see 40 CFR §265) Subpart I - Use and Management of Containers and Subpart J - Tank Systems.
  - Up to 55 gallons of hazardous waste, or 1 quart of acutely hazardous waste may be accumulated near the point of generation (a satellite accumulation area) without triggering requirements for compliance with 40 CFR §265 Subpart I or J at the point of generation.

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<sup>16</sup> If a Uniform Hazardous Waste Manifest is not returned to the generator within 45 days after shipment, the generator must undertake a search for the missing manifest and wastes to determine the disposition of the waste, and must also notify EPA that the manifest was not returned within the allotted time.

- Prepare a contingency plan describing emergency response activities, review and update the plan regularly, and ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations and emergencies (40 CFR §262.34(a)(4))<sup>17</sup>;
- Submit biennial reports to EPA that list the identity and quantity of hazardous waste generated, the names of the transporters used, and the name of the TSDF receiving the hazardous waste (40 CFR §262.41);
- Initiate a hazardous waste minimization program as required under RCRA §3002(b), or if the facility is a small quantity generator demonstrate a "good faith effort" to comply with the hazardous waste minimization requirements; and
- Complete a Uniform Hazardous Waste Manifest for each shipment of hazardous waste. Under 40 CFR §262.20 following information must be included:
  - The identity of the generator, transporter and TSDF;
  - The identity, quantity, hazard, and RCRA hazardous waste number(s) of the wastes;
  - The number and type of containers;
  - The total quantity of waste; and
  - The signature of the responsible parties at the generator, transporter, and TSDF (40 CFR §261.20).

As a generator of hazardous waste, DOE often acts as the transporter of the waste. However, DOE also uses contracted transporters for hazardous waste as well. In either case, DOE must ensure that the requirements for the transportation of hazardous waste are met by party acting as the transporter. Under 40 CFR Part 263 transporters of hazardous waste must:

- Obtain an EPA Hazardous Waste Transporter Identification Number, and if required a State Hazardous Waste Transporter Number, to ship hazardous wastes from a generator to a TSDF (40 CFR §263.11);
- Use the Uniform Hazardous Waste Manifest provided by the generator (40 CFR §263.20);

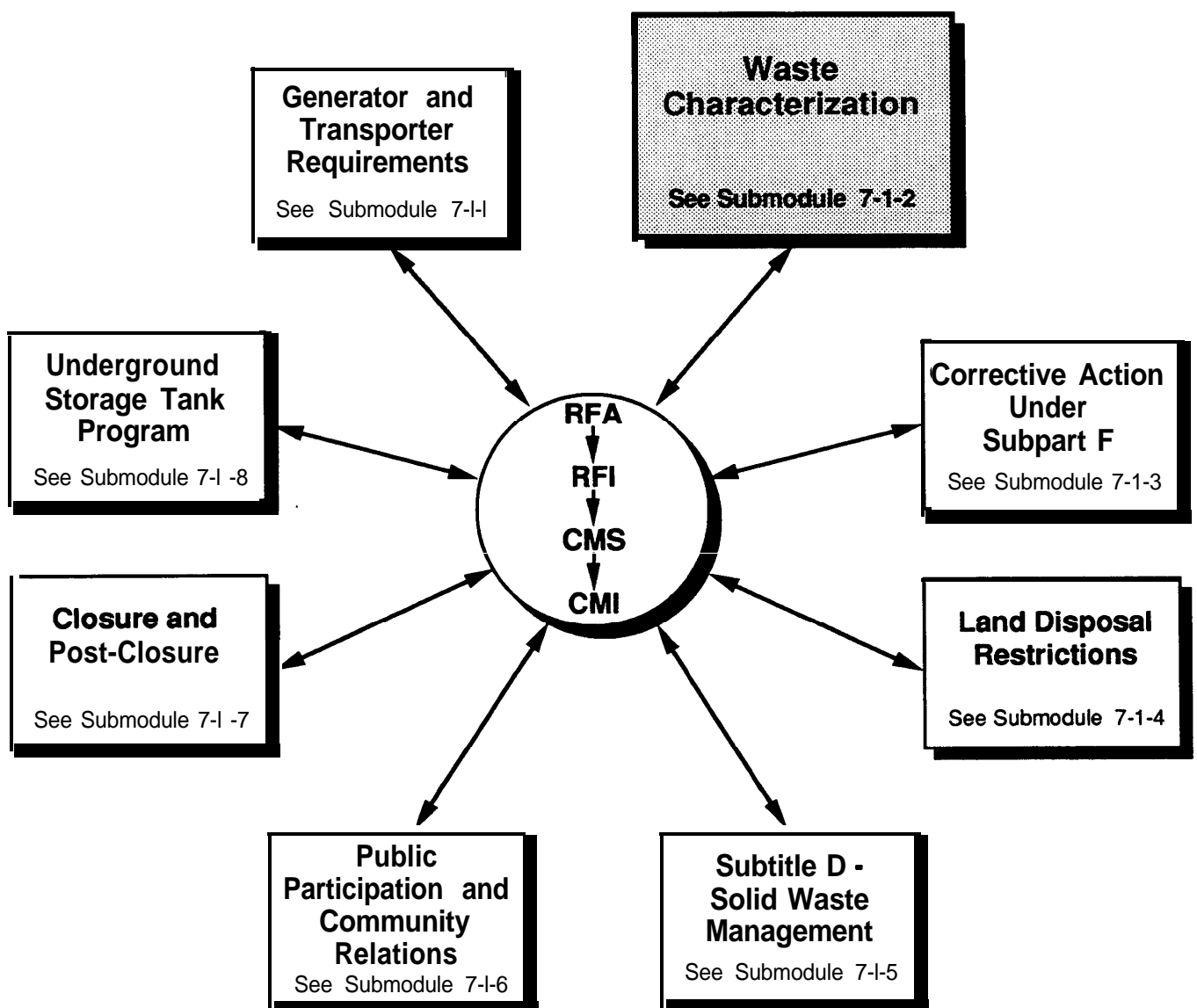
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<sup>17</sup> For additional information see the DOE Office of Environmental Guidance document *Preparation of RCRA Contingency Plans (July, 1992)*.

- Comply with the requirements of the manifest for delivery to the TSDF (or alternate) listed on the manifest (40 CFR §263.21);
- Comply with all U.S. Department of Transportation requirements for transporting hazardous waste (49 CFR §100-199) (40 CFR §263.10);
- Maintain the required records (40 CFR §263.22); and
- Report and respond to any release of the hazardous waste which occurs while the hazardous waste is under the control of the transporter (40 CFR §263.30).

For shipments of hazardous waste occurring entirely within the boundaries of a facility there is no requirement for the use of a Uniform Hazardous Waste Manifest. However, compliance with DOT regulations and the use of a Uniform Hazardous Waste Manifest is required if the transportation occurs over a public highway, or between non-contiguous facilities.

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**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Submodule 7-1-2 - Waste Characterization**



# Submodule 7-1-2: Waste Characterization

## Waste Characterization to Require RCRA Corrective Action

A requirement for RCRA Corrective Action arises from the discovery of a release or potential release of hazardous wastes or hazardous waste constituents from a solid waste management unit (SWMU) at a treatment, storage, or disposal facility (TSDF). It is important to understand that a released material *must* be classifiable as a hazardous waste or hazardous waste constituent for EPA to require RCRA Corrective Action. RCRA Corrective Action is not limited to releases of listed or characteristic hazardous wastes identified in 40 CFR Part 261. Under the proposed Subpart S rule, RCRA Corrective Action requirements extend to releases of any substance meeting the statutory definition of hazardous waste in RCRA §1004(5). Accordingly, RCRA Corrective Action requirements are applicable to releases of hazardous waste constituents. Hazardous waste constituents include the compounds listed in 40 CFR Part 261 Appendix VIII and 40 CFR Part 264 Appendix IX.

## Characterization of Wastes Generated During RCRA Corrective Action

The proposed Subpart S rule requires that the facility determine and comply with all applicable waste management standards for wastes generated during RCRA Corrective Action. Thus, to comply with this requirement, all wastes generated during RCRA corrective action must be classified as solid, hazardous, or exempted wastes in order to determine the applicable waste management requirements.

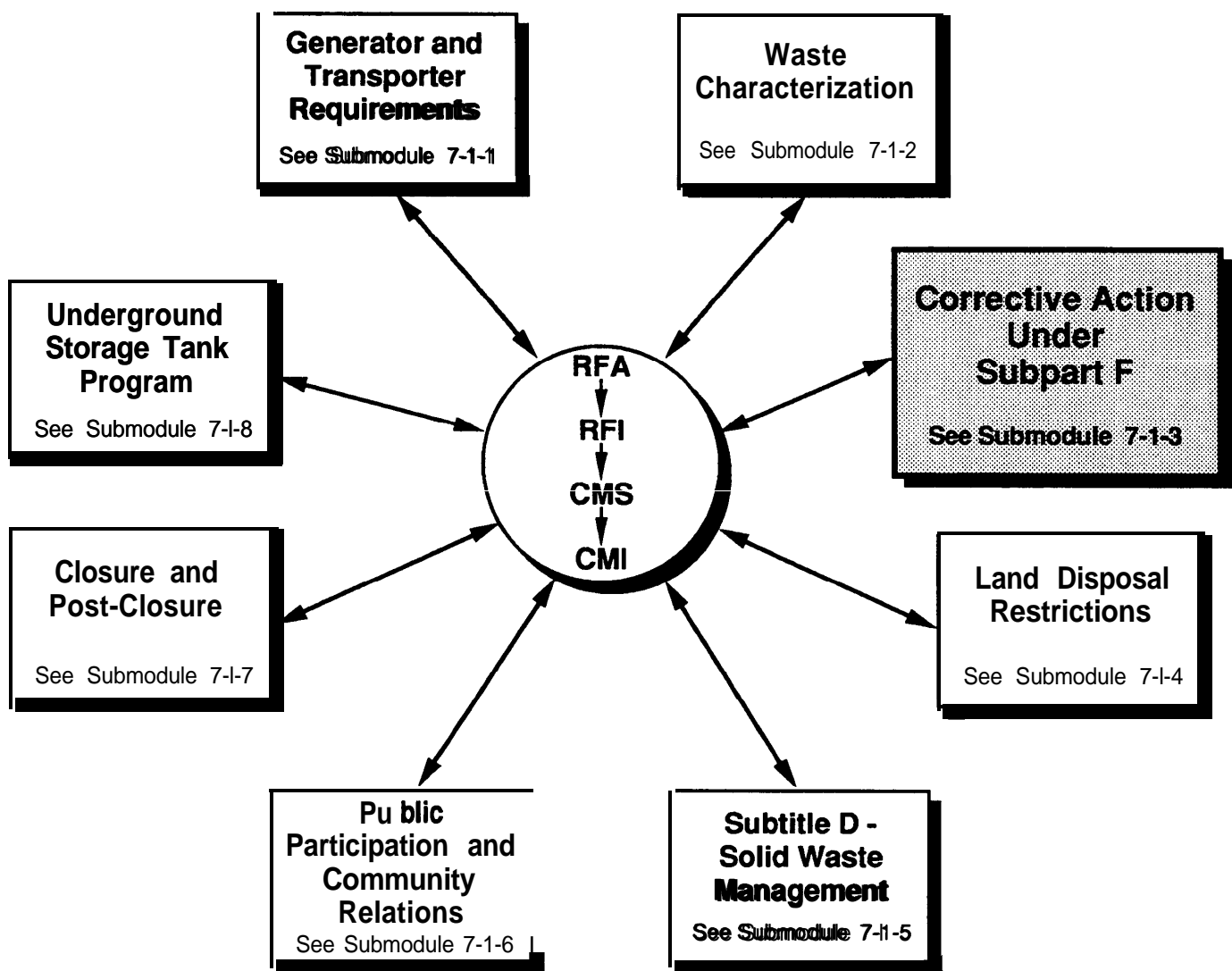
The definition of solid waste includes any material which is abandoned, recycled, "inherently waste-like," and which is not specifically excluded by variance or exemption. The term "abandonment" includes disposal, burning or incineration, and accumulation prior to, or in lieu of, disposal, burning or incineration. "Recycling" includes accumulation, storage, and treatment of wastes in a manner constituting disposal, burning wastes for energy recovery, reclaiming wastes, or accumulating wastes speculatively. "Inherently waste-like" includes specific wastes such as certain chlorinated phenols which are recycled or materials which contain compounds listed at 40 CFR §261 Appendix VIII. Wastes exempted from the definition of solid waste include domestic sewage and any mixture of other wastes which passes through a sewer system to a publicly owned treatment works (POTW), point source industrial wastewater discharges regulated under the Clean Water Act, irrigation return flows, spent nuclear and by-product materials defined by the Atomic Energy Act, in-situ mining materials, pulping liquors that are reclaimed, spent sulfuric acid used to make virgin sulfuric acid, and secondary materials reclaimed and returned to the original generation process for reuse. Examples of solid wastes which might be generated during a RCRA Corrective Action include uncontaminated construction debris and uncontaminated trash or wastepaper associated with onsite activities.

Section 1004(5) of RCRA defines a hazardous waste as a solid waste (including liquids and gases) which, because of quantity, concentration, physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or in serious, irreversible, or incapacitating reversible illness. The definition of hazardous waste also includes those solid wastes which pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise managed. Under the regulatory definition, a solid waste is a hazardous waste if the waste is listed as a hazardous waste in 40 CFR §261 Subpart D, exhibits one or more of the characteristics (corrosivity, ignitability, reactivity, or toxicity) of a hazardous waste described in 40 CFR §261 Subpart C, or is mixed with a hazardous waste. The proposed Subpart S rule also considers hazardous waste constituents as hazardous waste. Hazardous waste constituents are the compounds listed in 40 CFR Part 261 Appendix VIII and 40 CFR Part 264 Appendix IX. The definition of hazardous waste does not include certain solid wastes which are specifically excluded, such as certain oil and gas exploration and production wastes, mining wastes, or cement kiln wastes.

The classification of the wastes generated during a RCRA Corrective Action not only allows the facility owner/operator to determine the applicable waste management requirements, but also permits the facility owner/operator to assess various approaches to the RCRA Corrective Action such as using corrective action management units (CAMUs) or temporary units. For example, if several SWMUs release identical hazardous waste constituents, the entire area of contamination may be eligible for classification as a CAMU.

As of December 1991, there is an additional complication regarding the characterization of hazardous wastes. In December 1991, the U.S. Court of Appeals for the District of Columbia, ruling in the case of *Shell Oil Co. et al. v. EPA*, vacated the "mixture" and "derived-from" rules on the grounds that EPA had not complied with the requirements for public notice and comment. However, the court suggested that EPA consider reenacting the rules, in whole or in part, on an interim basis, pending opportunity for full notice and public comment. EPA did this and the rules are in effect on an "interim" basis, pending further action. Until the issues surrounding the "mixture" and "derived-from" rules are finally resolved, facility owners and operators should follow the status of these rules closely to determine the requirements for compliance.

It is important to understand that waste characterization is a very difficult process, requiring extensive chemical analyses and careful regulatory interpretation. The difficulty of this process is compounded by the regulations, which are often unclear. The DOE Office of Environmental Guidance (EH-231) has developed a graphic guidance entitled *The Definition of Solid and Hazardous Waste Under RCRA*. This document is an excellent reference for use when conducting waste characterization during RCRA Corrective Action.



**Chapter Seven - Integration with RCRA  
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Submodule 7-1-3 - Subpart F**

# **Submodule 7-1-3: Corrective Action Under Subpart F**

The regulations EPA has promulgated under the Resource Conservation and Recovery Act (RCRA) create two primary corrective action programs. The first, under the proposed Subpart S rule, is concerned with corrective action for releases of hazardous wastes and hazardous waste constituents to all environmental media from solid waste management units (SWMUs), and is the primary focus of this guidance document. The other primary RCRA Corrective Action program, created under 40 CFR §264 Subpart F (for permitted facilities) and 40 CFR §265 - Subpart F (for interim status facilities), specifically addresses releases to groundwater from SWMUs which are classified as regulated units. Regulated units (a subset of SWMUs) defined under (40 CFR §264.90(a)(2)) include waste piles, surface impoundments, land treatment units, landfills or miscellaneous units which received hazardous waste after July 26, 1982.

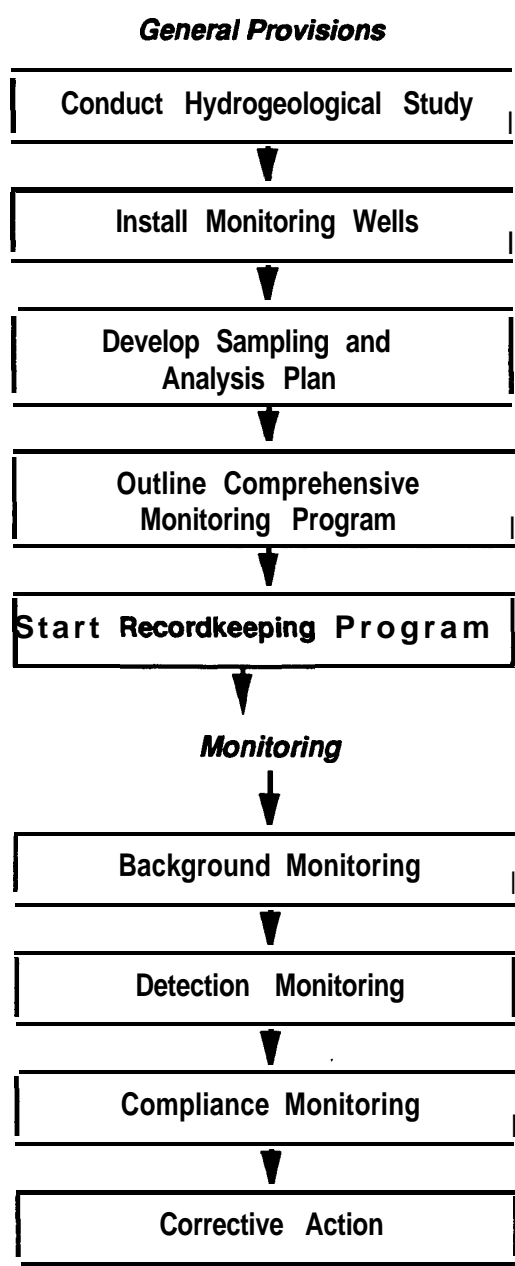
In order to ensure consistency in implementing corrective action at regulated units (which are a subset of SWMUs) and other solid waste managements units, and to achieve environmental results as rapidly and effectively as possible, EPA is proposing to revise the Subpart F regulations to make them consistent with the key features of Subpart S. The proposed revisions to Subpart F may reference parts of the proposed Subpart S regulations. EPA has not provided information on the degree of these revisions, or on an anticipated date for issuance of the proposed changes to the Subpart F regulations.

## **General Provisions**

As a condition of interim status or a RCRA permit to operate a hazardous waste treatment, storage, or disposal facility (TSDF), facilities which operate regulated units are required to initiate a groundwater monitoring program capable of assessing the facility's impact on the uppermost aquifer underlying the facility. The groundwater monitoring requirements for permitted facilities requires:

- Conducting a hydrogeological study to determine the characteristics of the underlying aquifer;
- The implementation of a "detection monitoring" program consisting of a sufficient number of wells, properly located and constructed, which would allow detection of any groundwater impacts by a unit (40 CFR §264.92(a));
- A sampling and analysis plan which describes the procedures for sample collection, preservation, shipment, and analysis, and for establishing the chain-of-custody for each sample (40 CFR §264.97(d)-(j));

# 40 CFR §264 – Subpart F Program



- Preparation of an outline for a more comprehensive "compliance" groundwater monitoring program (if required), capable of determining (1) if hazardous waste or hazardous waste constituents have entered groundwater, (2) the rate and extent of migration of such releases, and (3) the concentration of the hazardous waste or hazardous waste constituents in the groundwater; and
- A record keeping program.

## **Background Monitoring**

It is important to establish the background concentrations at a regulated unit. In this process, the facility collects quarterly samples from an upgradient well for one year, and analyzes these chemicals for specific compounds. The specific compounds for which background concentrations are set fall into three categories (1) the Maximum Contaminant Levels (MCLs) established under the Safe Drinking Water Act, (2) groundwater quality parameters (chloride, iron, manganese, phenols, sodium, and sulfate concentrations), and (3) groundwater contamination parameters (pH, specific conductance, total organic carbon, total organic halogens, and hazardous waste constituents specified in the facility permit). The purpose of establishing background levels is to provide a departure point for use when determining if the groundwater quality is deteriorating as a result of releases of hazardous waste or hazardous waste constituents from the regulated unit. (40 CFR §264.97)

The implementation of these basic requirements at a facility has four phases: (1) background monitoring; (2) detection monitoring; (3) compliance monitoring; and (4) corrective action. A general discussion of each phase shown in the graphic on the opposite page follows.

## **Detection Monitoring (40 CFR §264.98)**

Detection monitoring of groundwater contaminants is conducted on a semi-annual basis, and on an annual basis for groundwater quality parameters. The purpose of detection monitoring is to determine if hazardous wastes or hazardous waste constituents are being released to groundwater from a regulated unit.

The point where the detection monitoring is conducted (the point of compliance) is at the vertical plane located at the hydraulically downgradient limit of the regulated unit, extending from the surface to the lowest point of the uppermost aquifer underlying the regulated unit(s). This is different from the point of compliance set under the proposed Subpart S rule. Under the proposed Subpart S rule, the point of compliance can be set at any point determined to provide protection of human health and the environment.

If hazardous wastes or hazardous waste constituents are discovered in groundwater samples at concentrations which are statistically greater than background, the facility must notify EPA within 7 days and must commence compliance monitoring.

## **Compliance Monitoring (40 CFR §264.99)**

The purpose of compliance monitoring is to determine if the release of hazardous waste constituents to groundwater detected during the detection monitoring phase requires implementation of corrective action. The facility permit will specify the compounds for which the facility must monitor. Generally, these compounds are found in 40 CFR §264 Appendix IX. The permit will also specify the Groundwater Protection Standard for the facility. This standard can be set at the background concentration of contaminants, the Maximum Concentration of Constituents for Groundwater Protection values found in Table 1 of 40 CFR §264.94, or an Alternate Concentration Limit (ACL) approved by EPA. If hazardous wastes or hazardous waste constituents are detected in concentrations exceeding the Groundwater Protection Standard, the facility will be required to implement corrective action to reduce the concentration of contaminants below the applicable standards.

### **Corrective Action (40 CFR §264.101)**

Corrective Action under Subpart F is limited to remediation of releases to groundwater. Under Subpart F, the facility may be required to remove the contaminants from the aquifer, or may be required to treat the contamination in place. The specific requirements for corrective action will be incorporated into the permit for the facility.

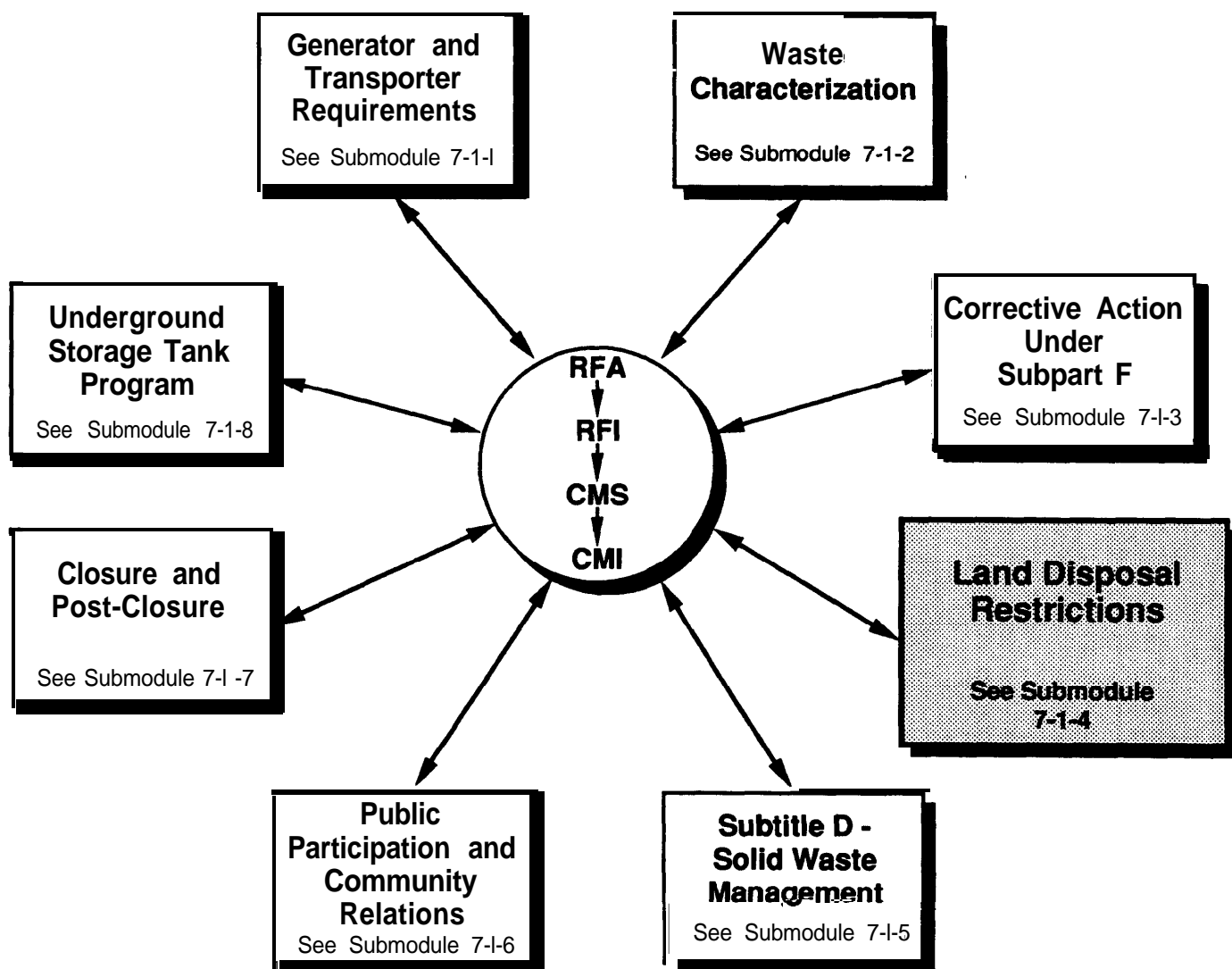
It is important to understand the relationship between the Subpart F and Subpart S Corrective Action Programs. The Subpart F program applies only when a release of hazardous waste constituents from a regulated unit (a subset of all SWMUs) impacts groundwater. Subpart S applies whenever there is a release of hazardous waste or hazardous waste constituents from *any* SWMU to *any* environmental media (see Table 7-1-3-1).

EPA plans to address releases to groundwater from regulated units using the Subpart F program. Releases from regulated units that impact other environmental media will be addressed through Subpart S. Releases from other SWMUs (i.e., SWMUs that are not regulated units) which impact groundwater or any other environmental media will be addressed through the Subpart S program. Note that a facility may have corrective action requirements under both Subpart F and Subpart S for releases from the same regulated unit. For example, if a release impacts both surface water and groundwater, Subpart S authority will be used to address the surface water contamination, and Subpart F authority will be used to address the groundwater contamination.



**Table 7-1-3-1:  
Application of Subpart F and Subpart S**

| Media Impacted   | Type of Unit                                   | Program  |
|--|--|--|
| Groundwater  | Regulated Units<br>-----<br>All Other SWMUs    | Subpart F<br>-----<br>Subpart S  |
| Groundwater +<br>Other Media<br>(Soil, Surface Water, or<br>Air) | Regulated Unit<br><br>-----<br>All Other SWMUs | Subpart F<br>(for groundwater)<br>Subpart S<br>(for other media)<br>-----<br>Subpart S |
| Other Media<br>(Soil, Surface<br>Water, or Air)                  | Regulated Unit<br>-----<br>All Other SWMUs     | Subpart S<br>-----<br>Subpart S  |



**Chapter Seven - Integration with RCRA  
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Module 7-1-4 - Land Disposal Restrictions**

# Submodule 7-1-4: Land Disposal Restrictions

The Hazardous and Solid Waste Amendments of 1984 (HSWA) impose restrictions on the land disposal of hazardous wastes. These restrictions, referred to as the Land Disposal Restrictions (LDRs) or "The Land Ban" are found at 40 CFR Part 268. Under HSWA, EPA was required to set levels or methods of treatment, which substantially diminish the toxicity of the waste or which substantially reduce the likelihood of migration of hazardous waste constituents from the waste. These treatment standards are based on the performance of the Best Demonstrated Available Technology (BDAT) for a specific hazardous waste. Upon the specified LDR effective dates, restricted wastes that do not meet treatment standards are prohibited from land disposal unless they qualify for certain variances or exemptions. For instance, an exemption is provided under the LDR program for facilities that can demonstrate that there will be no migration of hazardous waste constituents from the disposal unit or injection zone for as long as the waste remains hazardous. In addition, where adequate treatment capacity is not available, EPA can grant a national capacity variance, for up to two years, or, an extension to the effective date on a case-by-case basis. EPA has promulgated six major LDR rulemakings for various categories of wastes:

- Solvents and Dioxins (51 FR 40572, November 7, 1986) (this rulemaking also established the framework for the LDR program);
- California List Wastes (i.e., wastes containing PCBs, dioxin, cyanide, heavy metals, corrosives, or halogenated organic compounds) (52 FR 25760, July 8, 1987);
- First Third of Scheduled Wastes (53 FR 31138, August 17, 1988);
- Second Third of Scheduled Wastes (54 FR 26594, June 23, 1989);
- Third Third of Scheduled Wastes (including characteristic wastes) (55 FR 22520, June 1, 1990); and
- Certain Newly Listed Wastes and Hazardous Debris (57 FR 37194, August 18, 1992).

Separate rulemakings for the Underground Injection Control (UIC) program established hazardous waste disposal injection restrictions and requirements and set effective dates for solvents, dioxins, California list wastes, and First Third wastes.

## Impact on RCRA Corrective Action

All activities which generate hazardous waste as part of a RCRA Corrective Action must comply with the LDR requirements of 40 CFR Part 268. For example, the facility must initially determine if wastes generated during corrective action are hazardous. In cases

where wastes are hazardous, the LDR requirements that apply to the waste must be determined. The facility must then determine if the waste, as generated, meets the treatment standard for that waste. If the waste does not meet the treatment standard, the facility must arrange to treat the waste to that standard. For the waste to be disposed of in a land-based unit, the waste must meet the applicable LDR treatment standards (see 40 CFR §268.7).

If the facility is shipping the waste offsite to a treatment, storage, or disposal facility (TSDF), the generating facility must notify the receiving facility that the waste is subject to the LDR requirements. The generating facility must also select a TSDF capable of achieving a specific numeric treatment standard using BDAT or other appropriate treatment technology. These requirements apply to all hazardous wastes generated and removed from the unit for treatment or other purposes, even if the waste or residuals are returned to the unit.

EPA has also established LDR requirements specifically for hazardous debris (57 FR 37193, August 18, 1992) and are in the process of developing a separate set of LDR treatment standards for contaminated soil (56 FR 55160, October 24, 1991). For hazardous soils, the existing treatment standards for the hazardous waste contaminating the soil remain as the applicable standards (until revised treatment standards are promulgated). LDR requirements apply to soils and debris (and other media) contaminated with land disposal restricted hazardous wastes because these media *contain* hazardous wastes.<sup>18</sup> Be aware that certain types of contaminated debris were provided a generic case-by-case capacity variance (57 FR 20766, May 15, 1992).<sup>19</sup> Certain hazardous soils are also the subject of a interim final case-by-case capacity variance (see 57 FR 47772, October 20, 1992.) However, these variances will both expire on May 8, 1993.

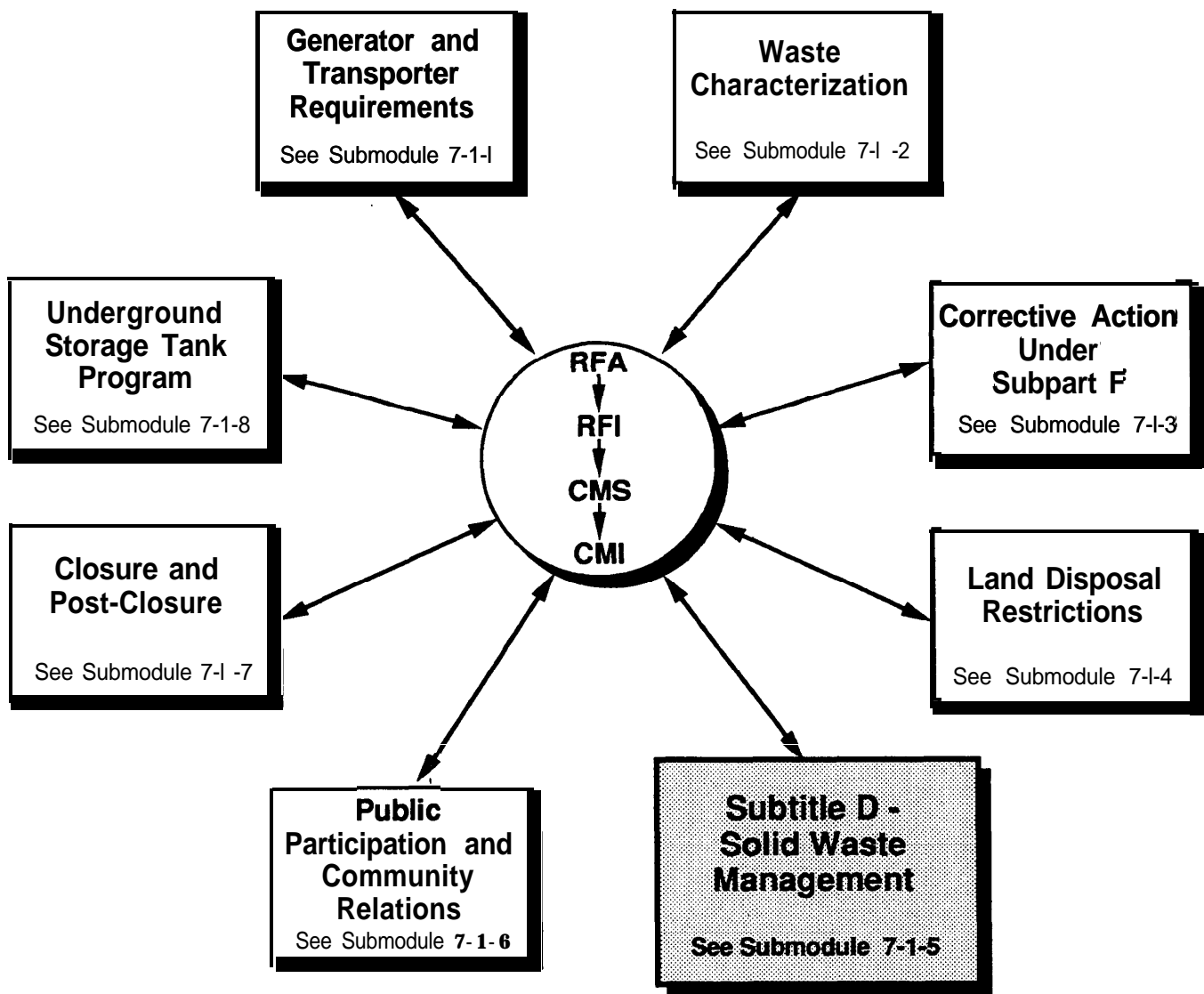
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<sup>18</sup> Under EPA's "contained-in" policy, contaminated media (i.e., debris, soil, groundwater, sediments) containing RCRA wastes must be managed as if they were hazardous wastes until the media no longer contain the hazardous waste or until the hazardous waste is delisted.

<sup>19</sup> Refer to DOE's Environmental Guidance Regulatory Bulletin entitled *Hazardous Debris Case-by-Case Capacity Variance* (July 15, 1992).

## **Exemptions from LDRs During Corrective Action**

There are numerous exemptions and variances from the LDR, including national capacity variances, case-by-case extensions to the effective date, variances from the treatment standard, and "no migration" variances. Further, the LDR do not apply to hazardous wastes land disposed prior to the effective date of an applicable land disposal restriction, if such wastes do not have to be removed or excavated for treatment. In the proposed Subpart S rule, EPA states that placement, and thus land disposal, does not occur when waste is moved or treated in-situ within the boundaries of a solid waste management unit (SWMU) or corrective action management unit (CAMU) (55 FR 30843). However, treatment schemes other than in-situ treatment may trigger the LDRs. This is important for RCRA Corrective Action activities since many corrective measures will involve treatment, consolidation, and capping of wastes within existing SWMUs or CAMUs. Further, treatment or disposal occurring within a unit will not trigger the minimum technology requirements for the unit (for additional information on CAMUs, see Chapter 3).



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-1-5 - Subtitle D - Solid Waste Management**

# Submodule 7-1-5: Subtitle D - Solid Waste Management

Corrective Action as defined under the proposed Subpart S rule applies only to facilities subject to Subtitle C of RCRA, that is, facilities that generate, treat, store, or dispose of hazardous waste. Disposal of non-hazardous solid waste is subject to regulation under Subtitle D of RCRA.

EPA has two major roles under Subtitle D:

- (1) To establish minimum national performance standards for the protection of human health and the environment from solid waste disposal facilities; and
- (2) To assist States in making appropriate solid waste management decisions by offering up-to-date technical assistance.

EPA has promulgated a number of regulations governing the disposal of solid wastes:

- 40 CFR 241 - Guidelines for the Land Disposal of Solid Wastes;
- 40 CFR 257 - Criteria for Classification of Solid Waste Disposal Facilities and Practices; and
- 40 CFR 258 - Solid Waste Disposal Facility Criteria.

Of particular importance to owners and operators of solid waste disposal facilities are the regulations found at 40 CFR §258, part of which took effect on October 9, 1991 (56 FR 50978), and which become completely effective on October 9, 1993. These regulations apply specifically to municipal solid waste landfills (MSWLFs), a subset of all solid waste landfills, and they are much more comprehensive than the 40 CFR §241 or 40 CFR §257 regulations, which apply to all solid waste disposal facilities.

Under this rule, MSWLFs are defined as ". . . a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under §257.2. A MSWLF unit may also receive other types of RCRA subtitle D wastes, such as commercial solid waste, non-hazardous sludge, small quantity generator waste, and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion." Household waste is defined at 40 CFR §258.2 as ". . . any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas)."

Included in the MSWLF rule are criteria for groundwater monitoring and corrective action. The regulations found at 40 CFR §258 - Subpart G require the owner/operator of a MSWLF to establish a two-phase groundwater monitoring program, similar to the requirements of 40 CFR §264 - Subpart F and 40 CFR §265 - Subpart F. Like the Subpart F regulations for hazardous waste facilities, 40 CFR §258 - Subpart G is limited to monitoring and corrective action of releases to groundwater.

The requirements for corrective action under 40 CFR §258 - Subpart G and the proposed 40 CFR §264 - Subpart S rule are similar. A corrective action program under 40 CFR §258 - Subpart G would have to be designed to delineate the areal extent of the plume of contamination and to remediate the entire plume of contamination to the established maximum allowable constituent concentrations. Groundwater protection standards would be set using the same health and environmental based criteria as those under the proposed Subpart S rule. A major difference between the Subtitle C and Subtitle D approach to corrective action is the procedural requirements for the Subtitle D program. These requirements will be established by the States rather than by EPA.

The MSWLF rule establishes no minimum amount of household waste below which a facility is exempt from regulation as a MSWLF. Therefore, even a solid waste landfill that receives mostly industrial or commercial solid waste (both are defined at 40 CFR §258.2) becomes a MSWLF if it accepts *any* household waste. In that case, the landfill is subject to the requirements under 40 CFR §258. If an owner/operator wants particular landfills not to be regulated under the requirements of 40 CFR §258, it is imperative to segregate the solid waste stream into household and other wastes. This will ensure that landfills receiving mainly industrial or commercial solid wastes will not be in violation of the 40 CFR §258 requirements. At the present time EPA has not issued proposed or final regulations governing industrial or commercial solid waste landfills, but regulations are being developed, and EPA expects to expand its regulation of such facilities in the future.

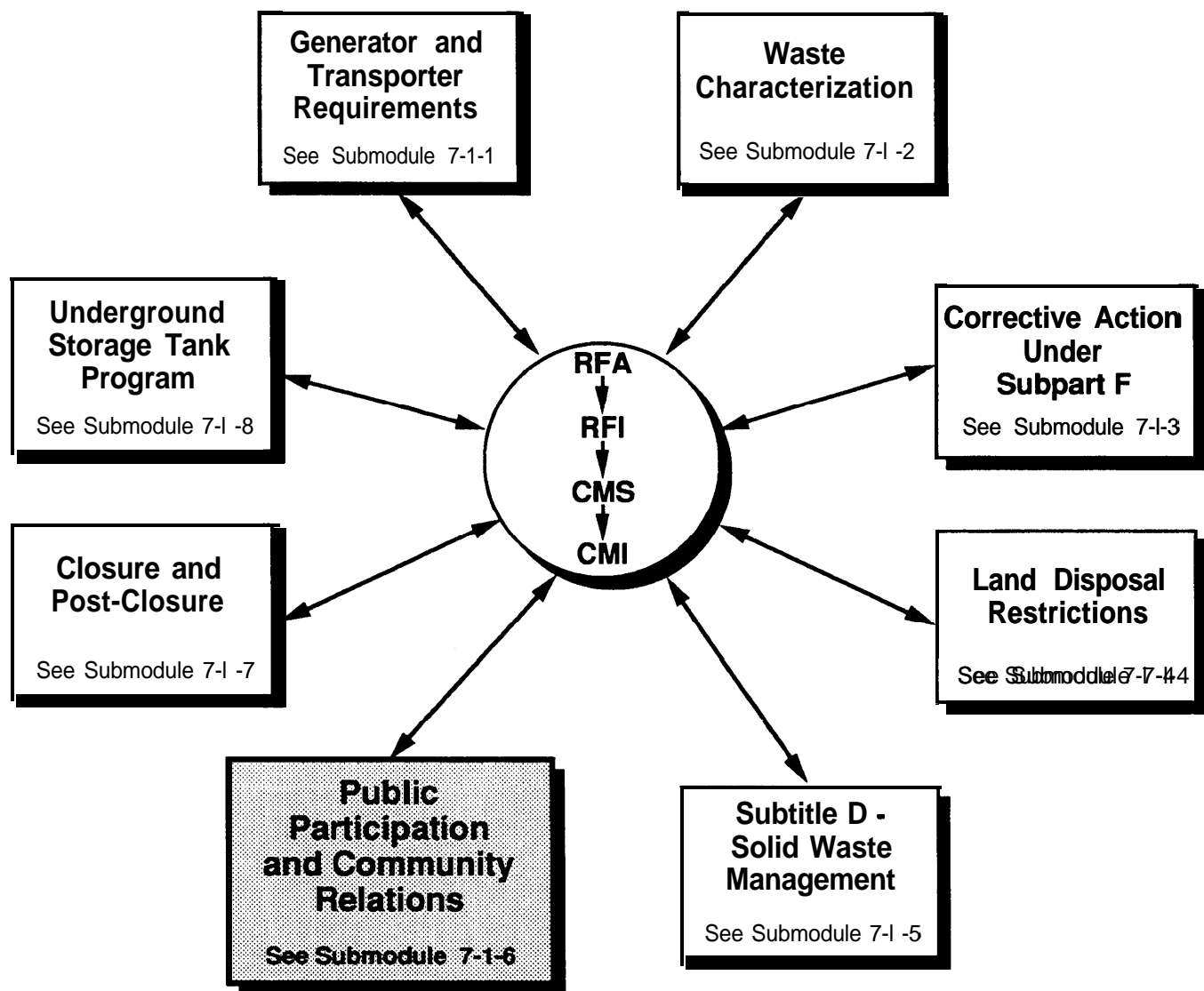
### **Relationship to Subtitle C**

In developing the RCRA legislation, the Congress clearly intended that solid waste disposal facilities be regulated by different criteria than hazardous waste disposal facilities. However, even though there is little or no interaction between Subtitle C and Subtitle D regulations, some of the Subtitle D standards for solid waste disposal facilities could apply or be relevant to Subtitle C facilities conducting corrective action. For example, in the preamble to the proposed Subpart S rule, EPA states that it may be appropriate to apply the regulations at 40 CFR §257.3-8 (Safety Limits for the Concentration of Explosive Gases Generated by Solid Waste Disposal Facilities) to Subtitle C facilities with solid waste management units (SWMUs) that could generate methane. Similarly, a MSWLF (a type of SWMU) located at a Subtitle C permitted facility that releases hazardous wastes or hazardous waste constituents to the environment is subject to the Subtitle C corrective action program.

Another significant compliance issue for RCRA Subtitle C facilities conducting RCRA Corrective Action is the management of solid wastes generated during the corrective



action. Under the proposed Subpart S rule, one factor EPA assesses when considering plans for a corrective measure is compliance with the applicable standards for waste management. Specifically, the proposed language for 40 CFR §264.550-§264.552 requires "... any treatment, storage, or disposal of listed or identified hazardous waste ... shall be in accordance with applicable standards..." (55 FR 30881) and "Treatment, storage, and disposal of non-hazardous solid wastes... shall be in accordance with applicable technical standards ... pursuant to RCRA Subtitle D" (55 FR 30882). Thus, if the facility disposes of these non-hazardous industrial solid wastes in a MSWLF, the facility must ensure that the MSWLF is compliant with the terms of 40 CFR §258. However, if the facility elects to use a landfill that receives *only* industrial solid waste, the facility must ensure that the landfill is in compliance with the other applicable Subtitle D regulations such as 40 CFR §§241 and 257, but is not required to ensure compliance with the requirements of 40 CFR §258. (55 FR 30856)



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-1-6 - Public Participation and Community Relations**

# **Submodule 7-1-6: Public Participation and Community Relations**

Under RCRA §7004, public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information or program shall be provided for, encouraged, and assisted by EPA. The regulatory requirements supporting this statutory provision are found in 40 CFR Parts 124 and 270, and the general public involvement procedures for conducting public hearings and meetings found in 40 CFR Part 25. The proposed Subpart S rule includes additional requirements intended to promote active and effective communication between the public, the EPA, and the owner/operator of the facility (55 FR 30858). In addition, the facility may be required to comply with public participation requirements of other laws, such as the National Environmental Policy Act (NEPA), or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (see Modules 7-2 through 7-9 for additional information). The public involvement activities presented in this submodule reflect EPA-administered corrective action programs, as well as DOE guidance on public participation.

When a RCRA permit application is submitted, among other activities, EPA assembles a mailing list for the community in which the facility is located. After developing a draft permit and fact sheet, which will include corrective action requirements, EPA provides public notice that the draft permit has been prepared and is available for public review. This notice must be published in a major newspaper and broadcast over local radio stations. Also there is a requirement for a 45-day public comment period, and if requested, a public hearing. The comment period and public hearing provide the public an opportunity to comment on the terms and conditions of the permit. When a final decision is reached on whether to issue or deny a permit, EPA must respond to all significant comments received and must send a notice of the decision to each person who submitted written comments on the draft decision or who requested such a notice.

For corrective action, requirements for conducting a RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS), and for implementing a corrective measure will be included in the permit schedule of compliance through the permit modification process, which is subject to the same public participation requirements. In addition to these activities, the proposed Subpart S rule provides EPA the authority to require additional effort to keep the public informed of corrective action activities at the facility. EPA can require the establishment of an information repository near the facility for documents pertinent to the corrective action activities at the facility (e.g., RFI plans and reports, CMS plans and reports, relevant RCRA regulations). Such a repository would generally be required where the RCRA facility is similar (in terms of the magnitude of contamination and potential for exposure to hazardous wastes) to sites listed on the National Priorities List

(NPL) under CERCLA.<sup>20</sup> In addition, EPA will specify requirements that the permittee must satisfy in informing the public of the existence of any required repository. At a minimum, a written notice about the existence of the repository is sent to all individuals on the facility's mailing list. The permittee must also mail a summary of the final report of the RFI to all individuals on the facility's mailing list.

The proposed Subpart S rule establishes the selection of the corrective measure as a major permit modification, and, under proposed 40 CFR §270.36, requires opportunity for public involvement in addition to the public participation procedures under 40 CFR §124 (55 FR 30834). Other permit modifications initiated by EPA or the owner/operator will be classified on the basis of their potential effect on the owner/operator, the affected public, and the environmental impact of the proposed changes. Modifications not classified as major will follow the procedures proposed in 40 CFR §270.34(c) or those issued on September 28, 1988 (53 FR 37912) for owner/operator initiated modifications. These modifications may be pursuant to RCRA Corrective Action. Generally, such modifications will not include requirements for a public comment period or a public hearing.

For 3008(h) corrective actions, there are currently no regulatory public involvement requirements. However, EPA's Office of Solid Waste and Emergency Response issued "Guidance for Public Involvement in RCRA Section 3008(h) Actions" in the form of a memorandum dated May 5, 1987. This memo discusses the minimum public involvement requirements for EPA to follow once a facility has performed the RFI and the CMS and has submitted the CMS report and proposed remedy to EPA. Further, EPA expects to use the proposed Subpart S regulations as interim guidelines and may thus require preparation of a public involvement plan and an information repository for corrective action at interim status facilities.

There are also specific public involvement activities associated with modifications to corrective action compliance schedules. Proposed 40 CFR § 270.34(c) outlines specific procedures for modifying corrective action schedules of compliance for the purpose of implementing Subpart S requirements. These procedures will be applied only in modifying corrective action schedules of compliance; they will not be used to modify terms or conditions of the permit that are outside the scope of the schedule. Therefore, a modification made according to these regulations would not constitute a reissuance of the permit.

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<sup>20</sup> EPA policy is to list on the National Priorities List (NPL) all Federal facilities subject to RCRA Corrective Action that are eligible for such listing. This creates special requirements for community relations. See Module 7-3 for details.

## DOE Policy on Public Participation

The DOE Environmental Restoration and Waste Management (EM) program is committed to fulfilling DOE's policy to conduct its programs in an open, responsive and accountable manner. EM's policy is outlined in *Public Participation Policy for Environmental Restoration and Waste Management, U.S. Department of Energy (October 1992)*. The following discussion is from this document.

It is EM's policy that the public will have the opportunity to participate in the EM decisionmaking process for program planning, design, and implementation. It is EM's policy to support an aggressive, substantive, EM-wide public participation program in which the public is provided with accurate, complete, and timely information and early, meaningful participation opportunities. EM's overall goal is to create an open and accessible decisionmaking process that results in decisions that are technically and economically feasible, environmentally sound, health and safety conscious, address public values and concerns, and can be implemented. Providing for public participation in the decisionmaking process in one key means to achieve this goal. EM's public participation objectives include:

- Soliciting the public's help in identifying EM-related problems and issues and environmental, economic, social, and cultural values that relate to those problems and issues.
- Soliciting the public's involvement in identifying a full range of alternative approaches for addressing those problems and issues.
- Increasing public understanding of the complex environment in which DOE operates, the legal, regulatory, political, technical, funding, and resource constraints it faces, and the need to balance a variety of interests and considerations.
- Facilitating the clarification of issues and alternative approaches and the resolution of conflict, working toward the development of broad-based consensus, both on EM's objectives and on how to achieve those objectives.
- Coordinating, integrating, and communicating information about EM public participation activities such that the public is not confronted with multiple, overlapping, disconnected participation opportunities.
- Providing a range of EM public participation opportunities tailored to meet the needs and interests of various segments of the public.
- Providing the public with timely feedback on how and why their input was or was not incorporated into decisionmaking.
- Fulfilling the letter and the spirit of legal, regulatory, negotiated, and policy requirements relating to EM public participation.

An effective public participation program is essential to the success of the EM program. An active public participation program will:

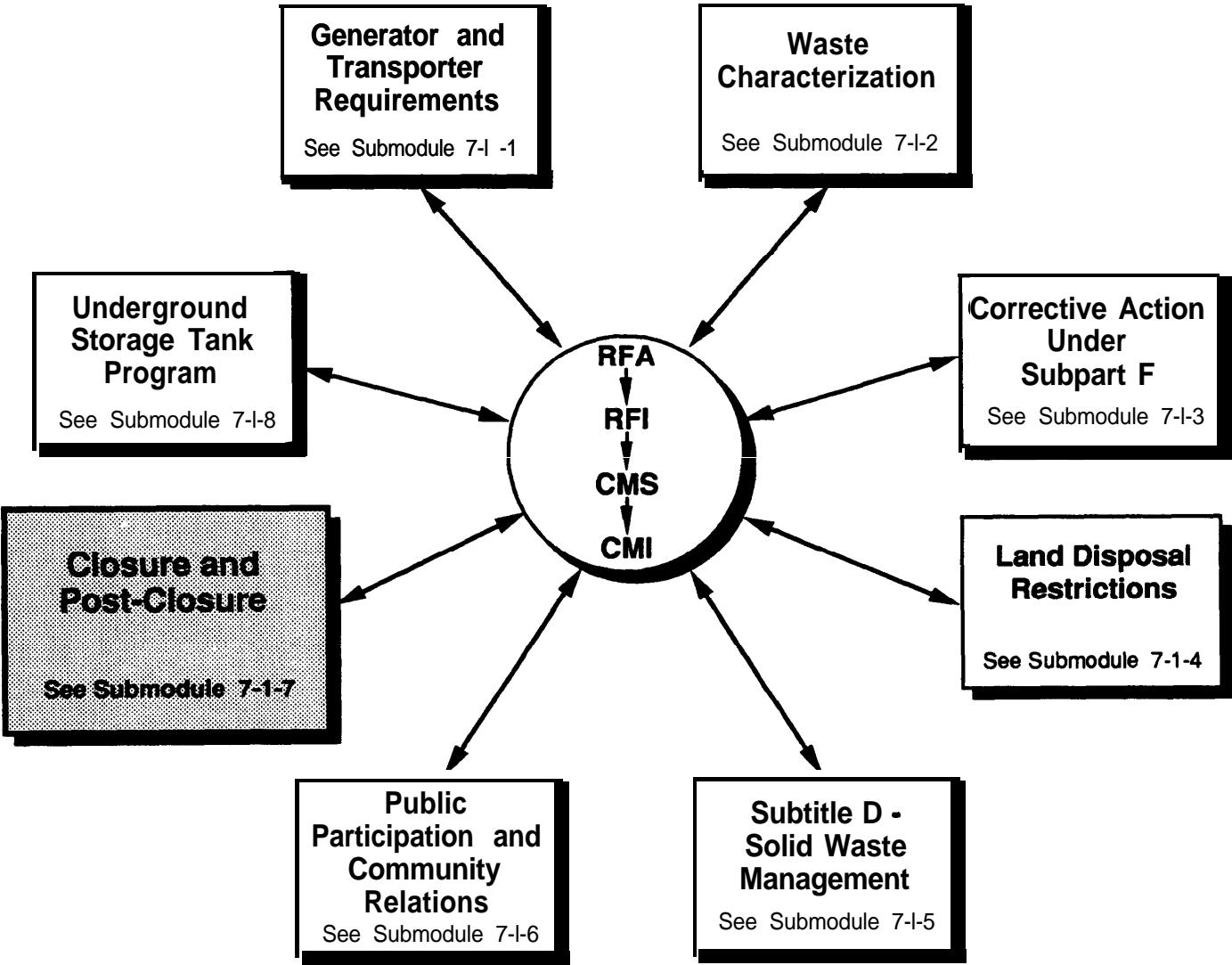
- Enable the public to participate in public policy decisions about matters that affect them.
- Help DOE make better decisions that incorporate legal, technical, economic, environmental, social factors, and that address public values and concerns.
- Provide a means for DOE to build consensus among the various interests in addressing major issues and problems.
- Assist DOE in building credibility with the public by demonstrating openness, responsiveness, and accountability.
- Encompass activities necessary to comply with applicable laws, regulations, negotiated agreements, and DOE policy, including meeting the requirements of the NEPA, RCRA and CERCLA.

To accomplish the goals for public participation, a facility conducting RCRA Corrective Action should develop and implement a public involvement plan (PIP). This is especially appropriate for:

- Large facilities;
- Facilities with a history of releases;
- Facilities with a history of public opposition;
- Facilities receiving credit for remediation of contamination; and
- Facilities located in or near residential areas.

There are several guidance documents available that address public participation. These include:

- *Guidance on Public Involvement in the RCRA Permitting Program (January 1986)* (developed by EPA);
- *Public Participation in Environmental Restoration (November, 1991);*
- *Public Participation Guidance for Environmental Restoration and Waste Management (March 1993);*
- *Public Participation Policy for Environmental Restoration and Waste Management (October, 1992);*
- *Administrative Record (November 1991); and*
- *Information Repository (November 1991).*



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-1-7 - Closure and Post-Closure**



# Submodule 7-1-7: Closure and Post-closure

## Closure

When a hazardous waste treatment, storage, or disposal facility (TSDF) ceases waste management activities at a unit, the unit must be closed according to the requirements of 40 CFR §264-Subpart G (for permitted facilities) or 40 CFR §265-Subpart G (for interim status facilities). Under these regulations there are two options for closure, "clean closure" and closure with wastes left in place.

The first option, "clean closure," requires that a unit must not contain contaminants that will impact any environmental media in excess of EPA-recommended risk-based limits or factors such as Maximum Contaminant Levels (MCLs), Ambient Water Quality Criteria (AWQC), reference dose limits (RfDs), or carcinogenic potency factors (CPFs). "Clean closure" also requires demonstration that direct contact (e.g., dermal exposure, inhalation) will not pose a threat to human health or the environment.

The other option, closure with wastes left in place, requires the owner/operator to close the unit in such a manner as to:

- Protect human health and the environment;
- Minimize the need for further maintenance; and
- Control, minimize, or eliminate the release of hazardous waste, hazardous waste constituents, leachate, contaminated runoff, or hazardous waste decomposition products.

In the case of groundwater contamination, the facility must comply with the requirements for closure with the wastes left in place.

Each type of unit (e.g., landfill, surface impoundment, waste pile) has specific closure requirements, detailed in the appropriate Subparts of 40 CFR §264 and 40 CFR §265.

All TSDFs are required to develop, submit, and have approved a closure plan for the facility as part of the RCRA Part B permit application. The closure plan must be updated 60 days prior to any planned change in the facility operating plan or 60 days (30 days if closure is occurring) following any unexpected event which affects the closure plan. A permit modification is required to amend the closure plan at a permitted facility. Interim status facilities are required to submit to EPA a written request for amendment of an approved closure plan. Under 40 CFR §264.112(b), the specific requirements of a closure plan include discussion of:

- How and when the facility will be closed;
- The plans for compliance with the applicable closure requirements for each type of unit;
- The maximum quantity of hazardous wastes which the facility may contain prior to closure;
- The methods for removing, transporting, storing, or disposing of all hazardous wastes;
- The procedures for the removal or decontamination of all facility equipment;
- The planned year of, and a proposed schedule for, closure; and
- An estimate of the cost for closure (not required for Federal facilities).

A facility must provide EPA with a written notice of intent to begin closure and must adhere to various timetables for final acceptance of waste. Facilities with approved closure plans under 40 CFR §264 are required to:

- Notify EPA of the intent to close either 45 days (facilities with only container storage, treatment of storage tanks, or incinerators) or 60 days (all other units) prior to the date when closure activities are expected to begin (§264.112(d)(1));
- Begin closure activities no later than 30 days after the last volume of hazardous waste is received, or, if the facility might receive additional waste, no later than one year after the most recent receipt of hazardous waste (§264.112(d)(2)(i));
- Treat, remove, or dispose of onsite all hazardous wastes from the unit undergoing closure within 90 days after receiving the final volume of hazardous waste (§264.113(a)); and
- Complete all other closure activities within 180 days after receiving the final volume of hazardous waste (§264.113(b)).

Interim status facilities must:

- Submit a closure plan to EPA 45 days prior to closure of container storage, tanks, or incineration units, and 180 days prior to closure of any other unit (§265.112(d)(i));
- If the facility has an approved closure plan, the owner/operator must notify EPA 45 days prior to the closure of container storage, treatment or storage tanks, or incinerators and 60 days prior to closure of any other unit (§265.112(d)(1));

- Begin closure activities no later than 30 days after the last volume of hazardous waste is received, or, if the facility might receive additional waste, no later than one year after the most recent receipt of hazardous waste (§265.112(d)(2)(i));
- Treat, remove, or dispose of onsite all hazardous wastes from the unit undergoing closure within 90 days after receiving the final volume of hazardous waste or within 90 days after approval of the closure plan (§265.113(a)); and
- Complete all other closure activities within 180 days after receiving the final volume of hazardous waste or approval of the closure plan (40 CFR §265.112 (d) and (e) and (40 CFR §265.113(b)).

All closure activities must be certified by an independent registered professional engineer (for land treatment units a qualified soil scientist) within 60 days after completion of the closure activities at a surface impoundment, waste pile, land treatment unit, or landfill and within 60 days after final closure of a facility (§264.115). Within 90 days after the completion of closure, the owner/operator must submit a survey plat to EPA and the local zoning authority showing the size and location of the hazardous waste disposal areas within the facility. In addition, a notation must be placed in the deed of the property which provides details of the hazardous waste management activities which occurred at the facility, any land use restrictions, and information on the availability of the survey plat (40 CFR §264.116).

## **Post-Closure**

If the facility is closed with the waste left in place, the facility must comply with the post-closure requirements. Post-closure begins upon completion of the closure activities and lasts for 30 years, though this time limit may be shortened or increased if EPA determines that such a change provides adequate protection of human health and the environment. Post-closure care requirements under 40 CFR §264.117 include:

- Compliance with facility monitoring, maintenance, and reporting requirements of Subpart F, and the applicable unit-specific requirements of Subparts K, L, M, N, and X;
- Providing security at facilities closed with wastes left in place, or where access by the public or livestock presents a threat to human health; and
- Ensuring that subsequent uses of the properties where hazardous wastes remain do not disturb the integrity of the final containment system or disturb the functioning of the monitoring systems in a manner that will increase any potential hazard to human health and the environment.

Permitted TSDFs are required to submit a post-closure plan as part of the RCRA Part B permit application for the facility. Interim status facilities are also required to have a post-

closure plan. A post-closure plan has similar requirements for both permitted and interim status facilities (§264.118 and §265.118, respectively) and includes requirements for:

- Descriptions of the monitoring activities to be performed in compliance with the unit-specific post-closure requirements;
- Descriptions of the post-closure maintenance activities to be performed; and
- Descriptions of how the maintenance activities ensure the integrity and function of the containment and maintenance systems.

If the post-closure plan requires amendment, a permitted facility must request a permit modification from EPA (40 CFR §264.118). Interim status facilities must notify EPA of the proposed amendments to the plan (40 CFR §265.118(d)).

A post-closure permit is included in the overall RCRA permit for a TSDF, and can be required of land-based units at interim status facilities. Completion of all post-closure activities must be certified by both the owner/operator and an independent registered professional engineer within 60 days after completion of the post-closure period (40 CFR §264.120 and 40 CFR §265.120).

### **Interaction of Corrective Action With Closure and Post-Closure**

The most significant interaction between corrective action and closure is in the ability of a facility to comply with the regulatory time frames. EPA has proposed to amend the regulations governing extension of these deadlines at facilities conducting corrective action.

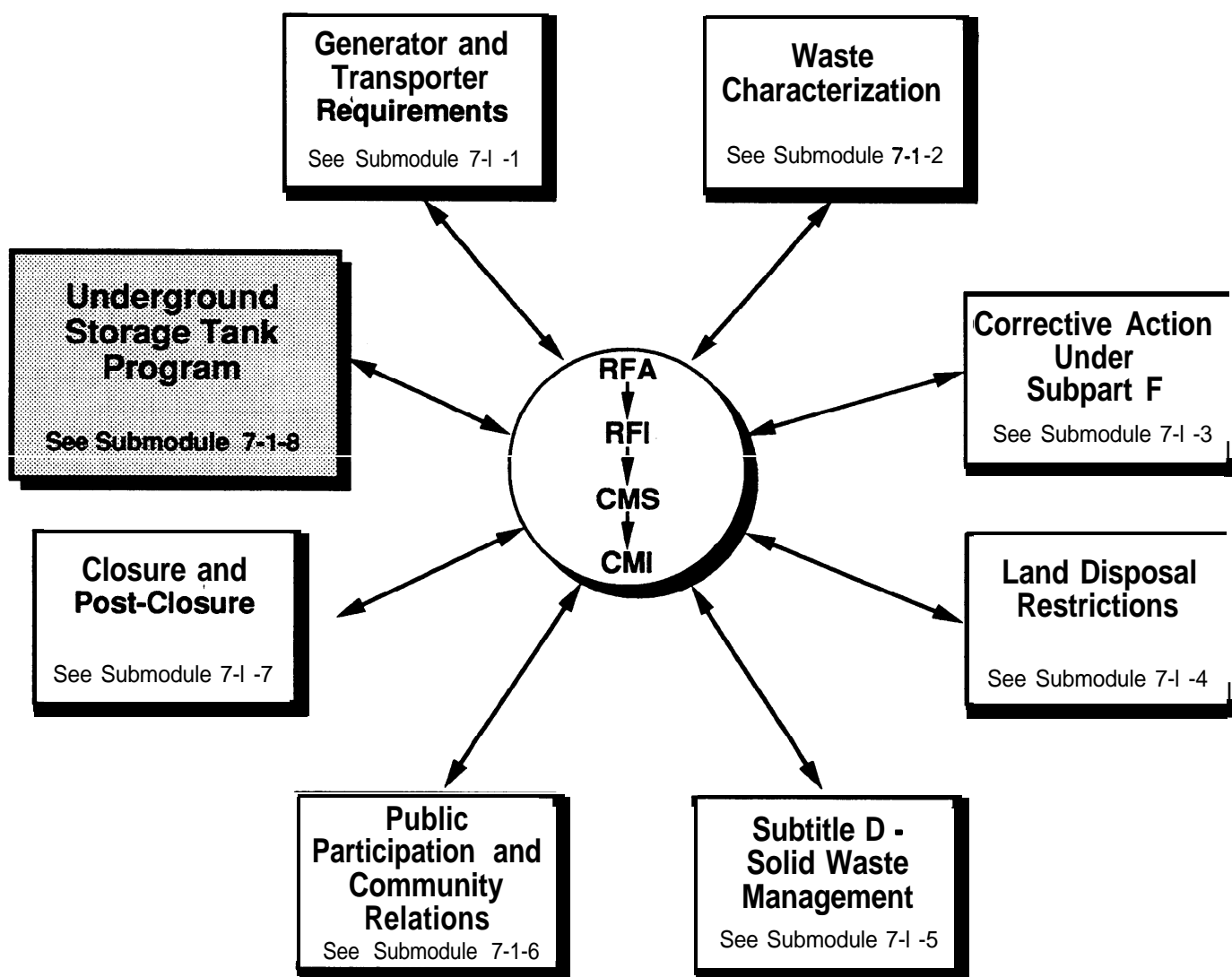
As discussed above, when a unit ceases to receive hazardous waste, the owner/operator is required to notify EPA and initiate closure of the unit. However, temporary suspension of waste acceptance by the facility may be required to minimize the potential for encountering problems during corrective action activities. The present regulations allow EPA to grant an extension to the deadline for beginning closure if the acceptance of waste is suspended only temporarily and additional hazardous waste capacity remains in the unit (40 CFR §264.113(a)(1)). The key requirement for issuance of such an extension appears to be the potential for use of the unit for disposal of wastes generated during corrective action at units located within the facility boundaries.

For units requiring corrective action prior to or in conjunction with closure, the owner/operator may find it difficult to comply with the requirement that within 90 days after receiving the final volume of hazardous waste at a unit, the owner/operator must treat, remove, or dispose of the waste offsite, and that closure of the unit be completed within 180 days after receiving the final volume of hazardous waste. EPA has proposed to amend the current regulations to include provisions for extension of these deadlines for purposes of conducting corrective action (see proposed 40 CFR §264.113(a)(i) and (ii) and proposed 40 CFR §265.113(a)(i) and (ii)).

EPA also proposed expansion of the 40 CFR §265 closure plan to require submission of information regarding all solid waste management units (SWMUs) at a facility subject to corrective action under Subpart F or the proposed Subpart S programs. However, such a requirement appears subject to challenge. In the preamble to the proposed Subpart S rule, EPA states that SWMUs that are not used to manage hazardous waste are not subject to the closure requirements of 40 CFR §264 or 40 CFR §265 - Subpart G, so it would appear there is no authority for a requirement for inclusion of these non-hazardous waste SWMUs in the Subpart G closure plan (55 FR 30851).

The proposed Subpart S rule also proposes providing EPA the authority to waive the Subpart G requirements (except 40 CFR §264.111) for units created for the purpose of managing wastes generated during corrective action (55 FR 30841 and 30851).

The DOE Office of Environmental Guidance has developed a guidance document entitled *Closure of Hazardous and Mixed Radioactive Waste Management Units at DOE Facilities (June, 1990)*, which provides detailed information on the process and requirements for closure and post-closure.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-I-8 - Underground Storage Tank Program**

# Submodule 7-1-8: Underground Storage Tank Program

The Hazardous and Solid Waste Amendments (HSWA) created a new regulatory program, RCRA Subtitle I - Underground Storage Tanks, governing the design, construction, installation, operation, and closure of underground storage tanks (USTs).<sup>21</sup> Specifically, RCRA §9003(c) required EPA to promulgate regulations governing:

- Standards for the design, construction, and installation of new USTs;
- Standards for maintenance of a leak detection system;
- Standards for reporting of releases from USTs;
- A corrective action program for such releases; and
- Requirements for the closure of existing tanks.

An underground storage tank (UST) is one that stores "regulated substances" and that has at least 10% of its volume below the surface of the ground, including piping connected to the tank. Regulated substances are petroleum products (e.g., gasoline and crude oil) that are liquid at standard conditions of temperature and pressure, and hazardous substances as defined under CERCLA §101(14), but not including hazardous waste regulated under RCRA Subtitle C.<sup>22</sup> Underground tanks containing RCRA hazardous waste are considered

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<sup>21</sup> The DOE Office of Environmental Guidance (EH-231) has developed a detailed graphic guidance titled *Regulated Underground Storage Tanks (June 1992)* discussing the UST regulations promulgated under the authority of RCRA Subtitle I.

<sup>22</sup> CERCLA 101(14) defines the term "hazardous substance" as: (A) any substance designated pursuant to section 311 (b)(2)(A) of the FWPCA, (B) any element, compound, mixture, solution, or substance designated pursuant to section 102 of this Act, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (SWDA) (but not including any waste the regulation of which under the SWDA has been suspended by Act of Congress), (D) any toxic pollutant listed under section 307(a) of the FWPCA, (E) any hazardous air pollutant listed under section 112 of the CAA, and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to section 7 of the Toxic Substances Control Act (TSCA). The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under sub-paragraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas (continued...))

a hazardous waste management unit used to treat, store, or dispose of hazardous wastes, and are regulated under Subtitle C.

Both the statute and EPA regulations excluded USTs based upon size, function, or contents. Examples of tanks excluded from the definition of UST include:

- Farm and residential tanks holding 1,100 gallons or less of motor fuel used for noncommercial purposes;
- Tanks storing heating oil used on the premises where it is stored;
- Tanks on or above the floor of underground areas, such as basements, shafts, and tunnels;
- Septic tanks and systems for collecting wastewater and storm water;
- Flow-through process tanks;
- Emergency spill and overflow tanks;
- Liquid traps or associated gathering lines directly related to oil or gas production and gathering operations; and
- Surface impoundments, pits, ponds, and lagoons.

### **Corrective Action Under RCRA Subtitle I**

On September 23, 1988, EPA issued technical standards which included release detection, reporting, and corrective action requirements for petroleum and CERCLA hazardous substance USTs regulated under Subtitle I (see 40 CFR §280). These standards require the owner/operator of a leaking UST to do the following:

- Report confirmed releases to EPA, the State, or local authorities;
- Immediately start remedial activities, including mitigation of safety and fire hazards, initiation of free product recovery; and
- Begin assembling information on the nature and quantity of the release and site characteristics.

The owner/operator must submit reports describing these steps as well as submit the design and implementation plan for the free product recovery system. A corrective action plan would be required for longer term cleanups addressing soil and groundwater contamination.

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<sup>22</sup>(...continued)  
and such synthetic gas).

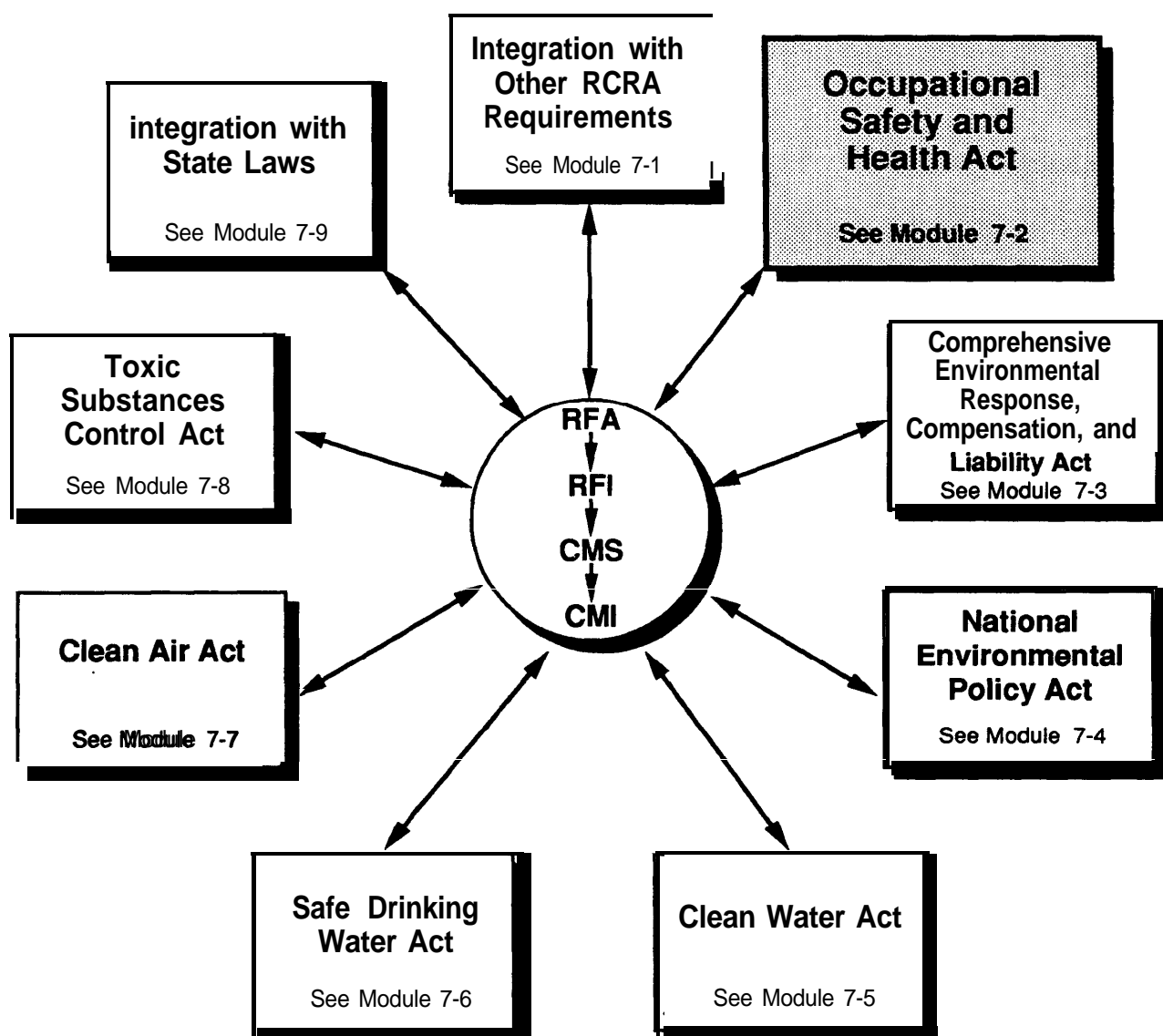


Under the Subtitle I program, a corrective action for an UST is similar to a corrective action under the proposed Subpart S rule. The steps that are similar include the following:

- Source control;
- Determining the extent of the contamination;
- Determining the extent of the remediation required; and
- Performing the necessary remedial activities (40 CFR §280.60-67).

### **Corrective Action Under RCRA Subtitle C**

A RCRA permitted TSD facility operating USTs containing hazardous waste must comply with the Subtitle C regulations and the terms of the facility permit for release reporting, contingency plans, and inspections of these units. Further, as described in the preamble to the proposed Subpart S rule, USTs at RCRA-permitted TSDFs which contain solid or hazardous waste will be subject to corrective action under the more complex and rigorous requirements of the proposed Subpart S rule rather than under RCRA Subtitle I (see 55 FR 30857). EPA believes that close oversight of corrective action for releases from USTs used to manage solid or hazardous waste is appropriate, and that the permitting process provides an opportunity for such oversight. USTs used to manage regulated substances will continue to be regulated under the provisions of the RCRA Subtitle I program.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-2 - The Occupational Safety and Health Act**

## **Module 7-2: Occupational Safety and Health Act**

The Occupational Safety and Health Administration (OSHA) was created in 1970 by the enactment of the Occupational Safety and Health Act (OSH Act). The primary goal of this Act is to "assure so far as possible, every working man and woman in the Nation safe and healthful working conditions." The principal role of the OSHA is setting health and safety standards and the enforcement of these standards through Federal and State programs. In general, the coverage of the Act extends to all employers and their employees in the 50 States, the District of Columbia, and all territories under jurisdiction of the Federal government.

The Occupational Safety and Health Administration established final regulations (effective March 6, 1990) that are applicable to RCRA-regulated generators and treatment, storage, or disposal facilities (TSDFs). These regulations, found at 29 CFR §1910.120, require employees at generator and TSDF facilities to be trained to perform their "assigned duties and functions in a safe and healthful manner so as not to endanger themselves or other employees" as part of an overall health and safety program.

The regulations applicable to the operation of RCRA treatment, storage, or disposal facilities (TSDFs) are found at 29 CFR §1910.120(p), and require that a RCRA TSDF have:

- A Health and Safety Program;
- A Hazard Communication Program (required by 29 CFR §1910.1200 Hazard Communication Standard - Worker Right-to-Know);
- A medical surveillance program;
- A decontamination program;
- A program for introducing new technologies;
- A program for training employees in materials handling;
- A 24-hour course to train employees in safe work practices related to the hazardous waste operations at the TSDF; and
- An emergency response program.

The OSHA regulations also directly affect all phases of RCRA Corrective Action, from the RCRA Facility Assessment through completion of the corrective measure. These

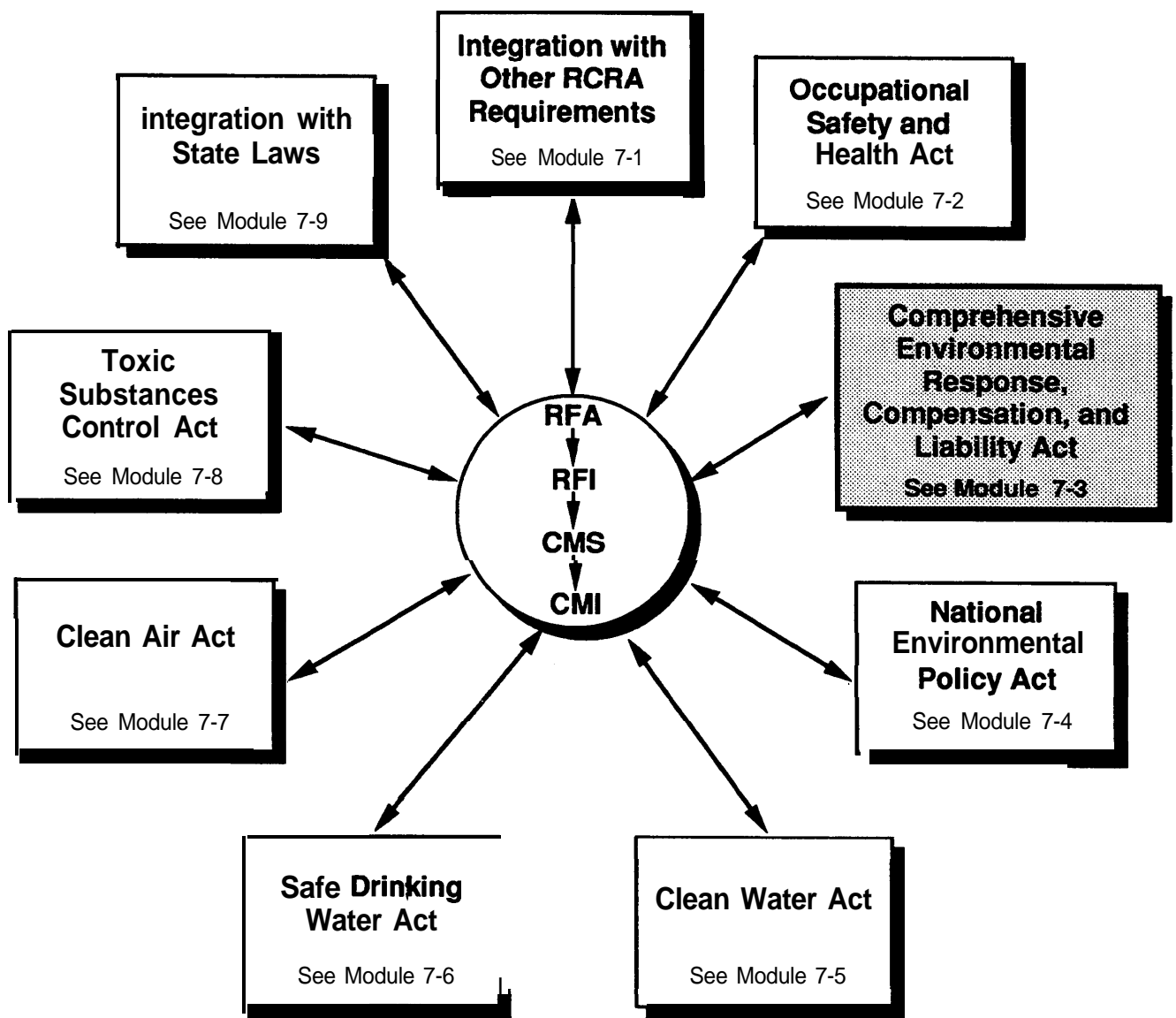
regulations, also found at 29 CFR §1910.120, require all employees engaged in onsite corrective action activities who might be exposed to hazardous substances, health hazards, or safety hazards to receive training before engaging in those onsite operations. The regulations for onsite activities require:

- A written health and safety plan (HASP);
- Site characterization and hazard analysis;
- Employee training necessary to successfully fulfill the HASP;
- The use of appropriate personal protective equipment (PPE);
- A medical surveillance of employees engaged in onsite activities;
- The use of environmental monitoring equipment;
- Site control through engineered or administrative practices;
- Decontamination of persons and equipment;
- An emergency response plan;
- Procedures for confined space entry; and
- Spill containment procedures.

General site workers engaged in corrective action activities which can expose them to hazardous substances and health hazards are required to receive a minimum of 40 hours of instruction off the site and at least three days of field experience under direct supervision of a trained, experienced supervisor. A 24-hour training course is required for employees who enter the site on an occasional basis for the purpose of conducting a clearly defined task, such as sampling groundwater. In addition, supervisory personnel directly responsible for supervising employees engaged in operations are required to receive an additional 8 hours of training. All employees are required to receive 8 hours of refresher training annually.

The DOE Office of Environmental Guidance has published a Guidance titled *OSHA Training Requirements for Hazardous Waste Operations (December, 1991)*. This Guidance provides additional details on the OSHA requirements.

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**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-3 - The Comprehensive Environmental  
Response, Compensation, and Liability Act**

## **Module 7-3: Comprehensive Environmental Response, Compensation, and Liability Act**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA)) authorizes the President to take response actions, including removal or remedial actions, when an uncontrolled release of a hazardous substance, pollutant or contaminant presents a threat or potential threat to human health or the environment. Through Executive Order 12580 - Superfund Implementation, the President delegated these responsibilities to EPA for responses at non-Federally owned sites. For Federally-owned sites, E.O. 12580 delegated the responsibility for emergency responses or responses at non-NPL sites to the heads of the various Federal agencies. E.O. 12580 also delegates responsibility for all types of CERCLA response at DOD facilities to the Secretary of Defense and for DOE facilities to the Secretary of Energy.

In general, CERCLA authority is used to address problems of uncontrolled releases usually at inactive or abandoned waste management facilities, or at facilities that are not currently being operated under interim status or under a RCRA permit. However, if the facility or a portion of the facility managed hazardous waste after November 19, 1980 (after which all hazardous waste management facilities were required to have a RCRA permit or interim status) both RCRA and CERCLA may apply (often both apply at Federal facilities), and EPA may require compliance with both statutes.

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the administrative and procedural requirements for conducting hazardous substance release response actions under CERCLA, and predates the proposed Subpart S rule. In developing the proposed Subpart S rule, EPA elected to parallel the NCP process.

It is important to understand that CERCLA addresses a larger number of materials than does RCRA. In addition to addressing releases of hazardous wastes (a subset of hazardous substances, which are also addressed under Subpart S), CERCLA addresses releases of a large number of materials which are not hazardous wastes, such as radionuclides, production feedstocks, or special studies wastes (wastes specifically exempted from regulation as hazardous wastes).

Response under CERCLA follows the following steps.

### **Site Discovery**

Discovery of a site where a release of a hazardous substance or pollutant or contaminant is threatened is similar to discovery of releases or threatened releases of hazardous wastes and hazardous waste constituents at RCRA facilities. Site discovery may occur through a variety of means including:

- Reporting of releases of hazardous substances under CERCLA §103;
- Reporting sites where hazardous wastes have been disposed of in a manner that poses a threat of release (as required by CERCLA §103(c) or CERCLA §120(b) and (c));
- Investigation by governmental authorities;
- Citizen suits; or
- Incidental discovery.

All sites where an uncontrolled release at or above a reportable quantity, unless federally permitted, of a hazardous substance or pollutant or contaminant occurs fall under CERCLA authority, and are listed on the EPA's CERCLIS database. Section §120(c) of CERCLA also requires all Federal facilities falling under CERCLA authority, where a RCRA §3106 report is required, or where a RCRA permit or RCRA §3010 notice was required, to be listed on the Federal Agency Hazardous Waste Compliance Docket ("the Docket").

### **Removal Actions and Remedial Responses Under CERCLA**

Response to releases of hazardous substances under CERCLA is broken into two classes, removal actions and remedial responses. The key difference is that removal actions are rapid responses used to reduce any immediate or short-term threat, and do not necessarily result in a final, permanent solution to the contamination problems at the facility. A remedial response, on the other hand, establishes a final solution to the contamination resulting from the release.

#### **Removal Actions**

Removal actions taken under CERCLA are similar to interim measures under the RCRA Corrective Action program. However, due to the wide scope of the CERCLA removal authority, CERCLA removal actions are far more common and can be used in a wider variety of cases. A CERCLA removal action involves a removal Preliminary Assessment (PA) and if warranted, a removal Site Inspection (SI). Depending upon the time frame available before onsite activities must commence, and the duration of the onsite activities, a CERCLA removal action may require a community relations plan and/or an Engineering Evaluation/Cost Analysis (EE/CA).



## **Remedial Response**

The first two phases of a CERCLA remedial response, the remedial Preliminary Assessment (PA) and the remedial Site Inspection (SI), are similar to the RCRA Facility Assessment (RFA). The most notable difference is that in most cases EPA conducts the RFA (DOE does, upon occasion, conduct RFAs), while the owner/operator of a Federal facility is usually required to conduct a PA or SI. Further, at a Federal facility, CERCLA §120(d) requires completion of the PA within 18 months after listing the Docket, and a final NPL listing decision within 30 months after listing on the Docket. A remedial PA involves a review of available information on a site, and eliminates from further consideration those sites not posing a risk to human health or the environment. A remedial SI may be required to further evaluate site conditions and often involves sampling of environmental media, collection of demographic information, and characterization of the environmental setting at the site.

Once the initial site evaluation is complete, the site is scored using the Hazard Ranking System (HRS). The HRS is a model for assessing the relative threat to human health and the environment posed by a site. If a site scores above 28.5 (an arbitrary cut-off point established by EPA), the site will be placed on the National Priorities List (NPL). Under CERCLA a Remedial Investigation/ Feasibility Study (RI/FS) is required for all NPL sites. This process of HRS scoring and NPL listing is analogous to the permit modification process for requiring a RCRA Facility Investigation (RFI) under the RCRA Corrective Action program in that both create a requirement for detailed investigations to characterize the extent and nature of a release. Under DOE Order 5400.4, DOE enters into a CERCLA §120(e) Inter-Agency Agreement (IAG) with EPA six months after the NPL listing. If the site is not placed on the NPL, DOE Order 5400.4 also requires that any remedial activity at the site be not inconsistent with the requirements of the NCP.

A Remedial Investigation/Feasibility Study (RI/FS) is analogous to the RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS). The principal difference is that the RFI and CMS are usually performed sequentially, whereas the RI and FS are required to be conducted concurrently. The RI/FS characterizes the nature and extent of risks posed by releases of hazardous substances, and provides an evaluation of the remedial options for the site. The RI focuses on collection of data to characterize site conditions, determining the nature and extent of the contamination, and evaluation of risk to human health and the environment posed by the site. The RI/FS process may include assessing a given remedial option through treatability testing. The FS focuses on development, screening, and detailed evaluation of each remedial option.

The RI/FS leads to the selection of the remedial action, development of a proposed plan describing the preferred remedial action, the development of the Record of Decision (ROD), and signing of a consent decree. These steps are analogous to the process established under the proposed Subpart S rule for selection of the corrective measure, development of a Statement of Basis, and permit modification requiring implementation of a corrective measure. The general performance standards and criteria for selecting a remedy under CERCLA are very similar to those under the proposed Subpart S rule, in that both require implementing cleanup activities that provide a long-term solution to the release, and that both provide long-term protection of human health and the environment.

Once the ROD is complete, the owner/operator, EPA, and the State create a binding agreement to conduct the remedial action through a consent decree. For DOE, the ROD or consent decree, once completed, becomes a part of the IAG with EPA.

Once the remedy is selected for the facility, and the necessary agreements/orders are in place, the Remedial Design/Remedial Action (RD/RA) phase of the CERCLA response process begins. The RD/RA process is similar to Corrective Measures Implementation (CMI) under the proposed Subpart S rule. The RD/RA involves the design, construction, and operation of the remedy, and the environmental monitoring required to demonstrate that the site has been remediated to the required levels.

The final requirement for CERCLA response is deleting the site from the NPL. In addition, the Superfund Amendments and Reauthorization Act (SARA) requires a review of the site conditions every 5 years, if any contamination remains at the site following completion of the remedy.

### **Integration of CERCLA Responses with RCRA Corrective Action**

In the preamble to the proposed Subpart S rule, EPA states that a substantial number of CERCLA response actions are likely to be undertaken at facilities with RCRA permits. EPA establishes the position that response actions taken under CERCLA authority which are consistent with the NCP will fulfill any requirement for RCRA Corrective Action. However, EPA also anticipates CERCLA response actions failing to address some releases of a hazardous waste or hazardous waste constituent from solid waste management units (SWMUs) at a facility. In such cases, EPA will require a RCRA Corrective Action at those SWMUs. Under DOE Order 5400.4, the IAG between DOE, EPA, and the State must specify which authority will be applied, and the specific requirements for compliance if more than one authority is used to address the release.

Depending upon site conditions, CERCLA authorities may be, and often are, used in conjunction with RCRA Corrective Action authorities.<sup>23</sup> A common example is the use of CERCLA removal actions at RCRA facilities. Any use of a CERCLA authority must comply with the administrative, procedural, and technical requirements of the NCP. Similarly, EPA expects to use CERCLA authorities to require remediation of area-wide contamination problems, to address contamination at units which are not SWMUs, and to address releases of materials which are hazardous substances but which are not hazardous wastes or hazardous waste constituents. In these cases, the requirement for a CERCLA response action would be referenced in the facility permit.

An additional issue facing Federal facilities is EPA's policy to list all Federal facilities with RCRA Corrective Action requirements on the NPL, if the site meets the NPL listing criteria (i.e., the site would have an HRS score over 28.5). Under CERCLA §120(e)(2)-(e)(4),

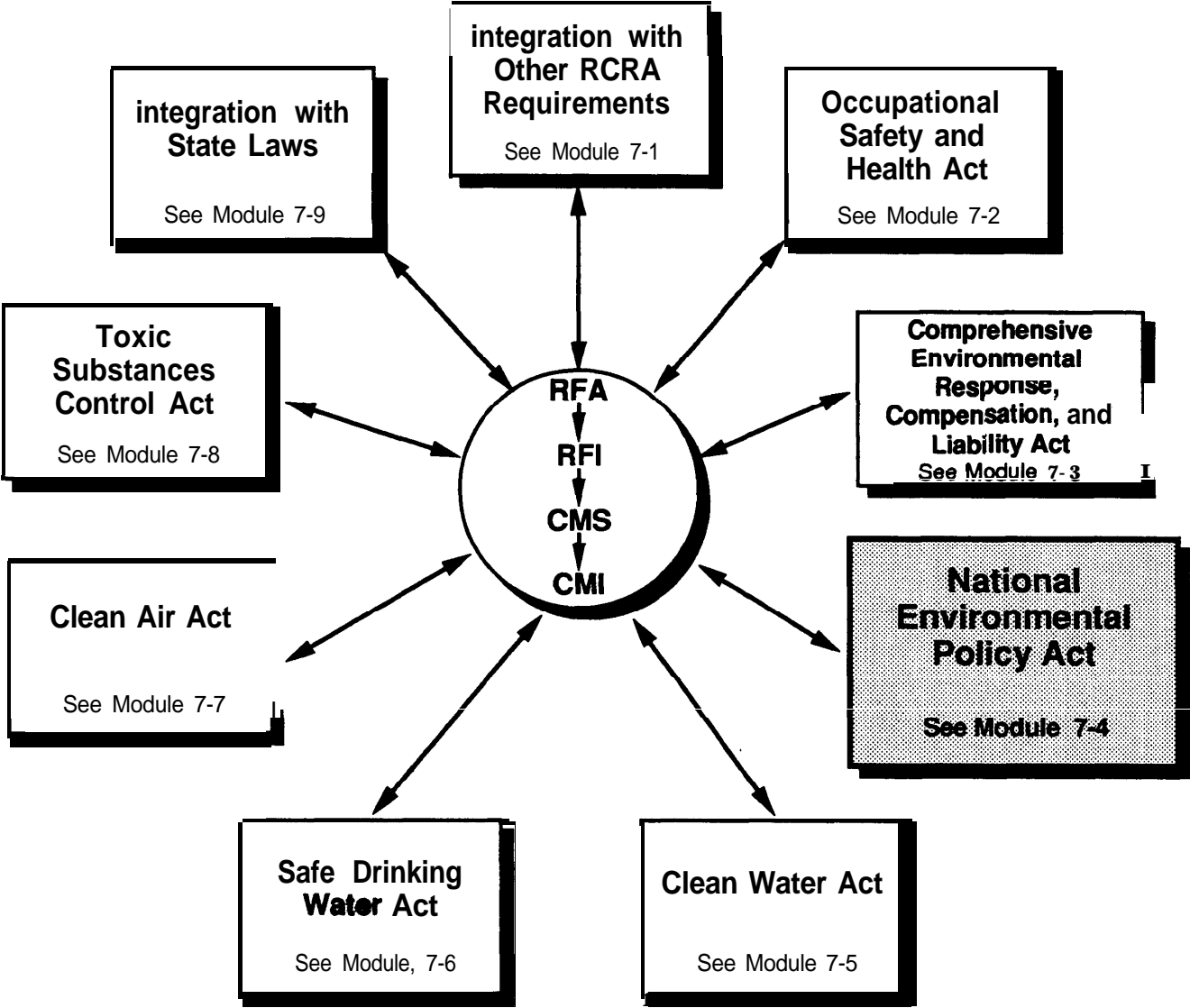
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This use of both RCRA and CERCLA authorities to address releases at a single facility is unique to Federal facilities.

Federal facilities listed on the NPL must enter into an IAG with EPA, and, if possible and where appropriate, the State. The purpose of the IAG is to clearly define the responsibilities of each party, to establish specific compliance requirements, and to provide for a dispute resolution process. Negotiation of the IAG is often a difficult process, reflecting differences in agency missions, policies, and positions.

The DOE Office of Environmental Guidance (EH-231) is currently developing a graphic guidance document which provides a comparison overview of the CERCLA remedial process and RCRA Corrective Action.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-4 - The National Environmental Policy Act**

# Module 7-4: National Environmental Policy Act

The Congress enacted the National Environmental Policy Act (NEPA) in 1969. NEPA directs Federal agencies to consider the impacts of their actions on human health and the environment during their decision-making processes. Section 102(2)(c) of NEPA states that all "agencies of the Federal government shall...include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, and (iii) alternatives to the proposed action..." This detailed statement is presented in an Environmental Impact Statement (EIS) and Record of Decision (ROD).

Section 102(2)(C) of NEPA requires that all Federal agencies prepare an EIS for all "...legislative proposals, or other major Federal actions significantly affecting the quality of the human environment." The concept of a major Federal action includes actions performed directly by the Federal government as well as actions which are potentially subject to Federal control or responsibility.

There are six phases an agency undertakes to implement NEPA. These phases are:

- Determining whether an action is a major Federal action significantly affecting the quality of the human environment and thereby requiring an EIS. Agencies are required to identify those actions for which an EIS is not required (i.e., categorical exclusions). If an action is not categorically excluded, the agency must prepare an environmental assessment (EA), which is a limited-scope assessment to determine whether there is no significant impact or whether an EIS is required. Alternatively, an agency can prepare an EIS without preparing an EA;
- Scoping the EA or EIS to determine the range of actions (connected actions, cumulative actions, and similar actions), the alternatives (no action, reasonable courses of action, and mitigation measures), and impacts to be considered (i.e., direct, indirect, and cumulative impacts);
- Conducting the impact study and preparing an EA or a draft EIS;
- Providing a public comment and response period;
- Approving the EA or the final EIS; and
- Preparing a Finding of No Significant Impact for the selected alternative (if appropriate).

The DOE policy established in DOE Order 5440.1E is for DOE "to ensure that consideration is given to the environmental values and factors in federal planning and decision making, and to comply fully with the letter and spirit of NEPA." In addition, the DOE Order on CERCLA requirements, DOE 5400.4, states DOE's policy to integrate the procedural and documentation requirements of CERCLA and NEPA, wherever practical, when remedial actions under CERCLA trigger the procedures set forth in NEPA. DOE has produced guidance on the implementation of this NEPA/CERCLA integration policy (November 15, 1991). The guidance indicates that there is no similar policy for integration of NEPA with the RCRA Corrective Action process although one is being considered. However, the CERCLA response action and RCRA Corrective Action processes are similar, and therefore this guidance may be applicable to RCRA Corrective Action if a NEPA/RCRA integration policy is formulated. Note, that since there is no policy memorandum addressing RCRA/NEPA integration this section is a brief overview. For further information on this issue the NEPA oversight office should be contacted and on specific questions on CERCLA/NEPA integration, the Waste Activities Division (EH-251) should be contacted.

The guidance is based on a tiered approach to NEPA documentation. The highest tier is the Programmatic EIS on Environmental Restoration and Waste Management, which is addressing major DOE-wide policy issues such as cleanup priorities and alternative cleanup and waste management technologies. Notice of Intent for this EIS was issued on October 22, 1990. Site-wide EISs comprise the next tier of documentation. They address individual and cumulative impacts of site activities, including those associated with all reasonably foreseeable cleanup actions at a site. Finally, the lowest tier of NEPA documentation addresses impacts of individual cleanup actions. The majority of site-specific cleanup actions are expected to be addressed by EAs to determine the significance of potential environmental impacts. Because CERCLA response action and RCRA Corrective Action documentation is similar to NEPA documentation, the guidance recommends that the two should be combined. For example, EA and EIS documents are to be integrated into remedial investigation/feasibility study (RI/FS) reports or engineering evaluations/cost analyses (EE/CAs) in the case of CERCLA, or into RCRA facility investigations/corrective measures studies (RFI/CMSs) in the case of RCRA Corrective Action if such an integration policy is formulated.

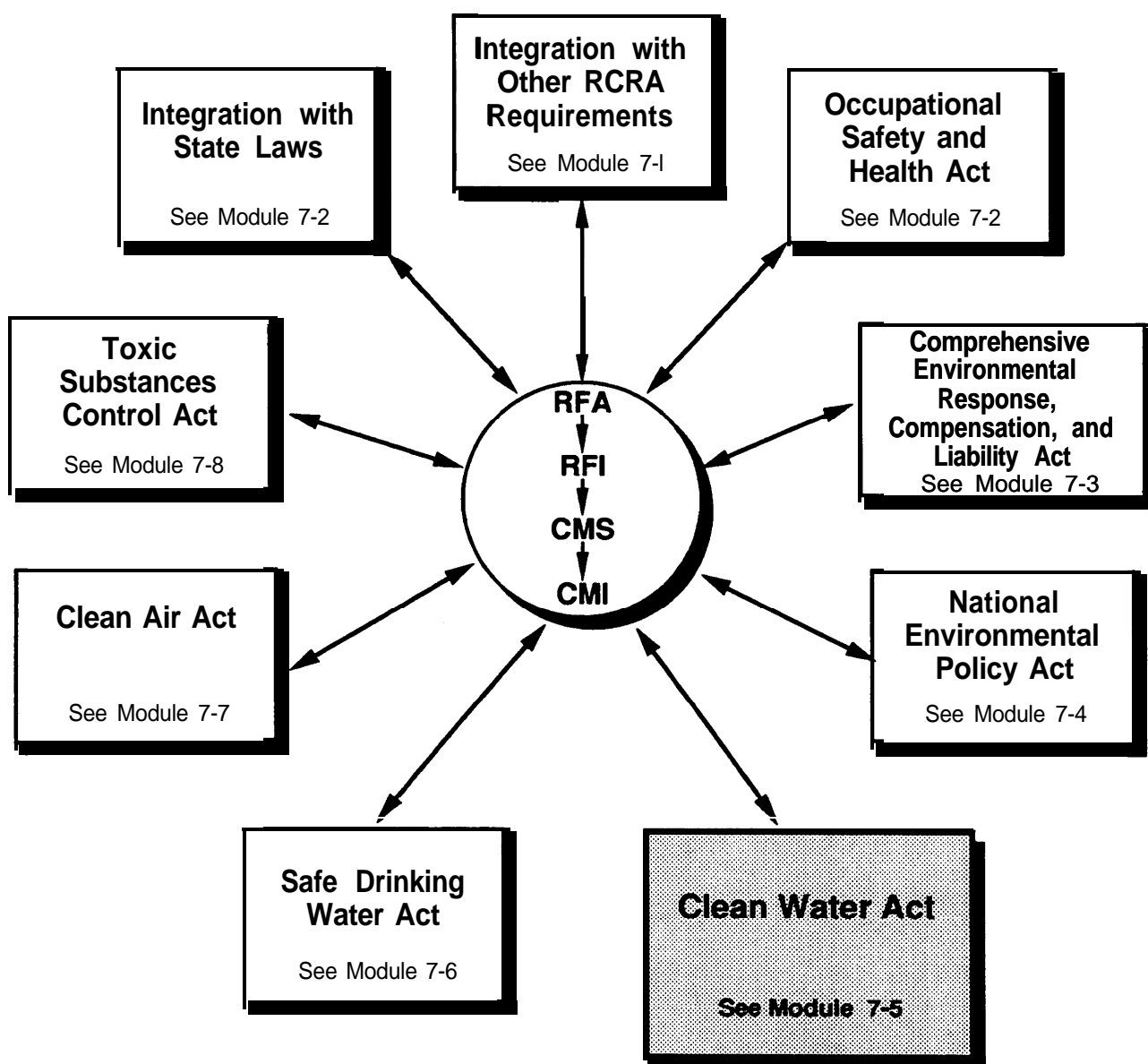
DOE has established procedures for compliance with NEPA (10 CFR §1021). The procedures are to be used in conjunction with and as a supplement to the implementing regulations of NEPA (40 CFR 1500-1508). Of particular note are the appendices to Subpart D, which identify DOE actions that:

- Normally are categorically excluded (do not require the preparation of an EIS or EA);
- Require the preparation of an EA, but not necessarily an EIS; or
- Require the preparation of an EIS.

Only three classes of actions are listed within the appendices that are directly related to RCRA Corrective Action, that are categorically excluded:

- Site characterization/environmental monitoring (Appendix B, item 3.1);
- CERCLA removals/similar actions under RCRA or other authorities meeting CERCLA cost/time limits or exemptions (Appendix B, item 6.1); and
- Siting/construction/operation of pilot-scale waste collection/treatment/stabilization/containment facilities (Appendix B, item 6.2).

Proposed actions not categorically excluded require either an EA or an EIS.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-5 - The Clean Water Act**



# Module 7-5: Clean Water Act

In 1972, the Congress created the basic framework for Federal regulation of surface water pollution by enacting the Federal Water Pollution Control Act (FWPCA). In 1977, the Congress renamed the FWPCA the Clean Water Act (CWA) and incorporated a new regulatory focus, the control of “toxic” water pollutants, and included a list of 129 specific chemicals considered “toxic.” In 1987, the Congress passed extensive amendments to improve water quality in areas where compliance with nationwide minimum discharge standards was insufficient to ensure attainment of CWA’s water quality goals.

The CWA imposes legal obligations (and substantial penalties for failure to comply) on those who:

- Discharge wastewater into lakes or streams;
- Discharge non-domestic wastewater into public sewers or sewage treatment plants;
- Place dredged or fill material in or on the banks of lakes, streams, and wetlands;
- Spill oil or hazardous substances into surface waters (or store significant quantities of oil which could be spilled into surface waters); or
- Handle domestic sewage sludge.

As with RCRA, it is important to note that the CWA allows State regulations to be more stringent than the Federal regulations. Therefore, many States have adopted statutes and regulations for the control of water pollution, and those statutes and regulations usually contain different or additional requirements.

## Discharging Wastes Under the Clean Water Act

The CWA requires a permit for any point source discharge (also called direct discharges) into the nation’s waterways. Such permits are issued under the National Pollutant Discharge Elimination System (NPDES) program. An NPDES permit is granted on a case-by-case basis and the terms of the permit depend on a number of variables. In general, the NPDES permit limits the concentration of toxic constituents or conventional pollutants in effluents discharged to a waterway. In addition, the discharger must treat the wastewater with the Best Available Technology that is Economically Achievable (BATEA) to reduce the concentrations of pollutants in the water. The need for an NPDES permit, or the effects of RCRA Corrective Action

(especially implementation of a corrective measure) on NPDES-permitted discharges must be considered when conducting the Corrective Measures Study (CMS).

The other option for discharges is an indirect discharge to a publicly owned treatment works (POTW). In this process, the waste is treated at the facility in a manner which meets the pretreatment standard, and then the waste is sent via the sanitary sewer system to the POTW. The waste is treated by the POTW and discharged pursuant to the POTW's NPDES permit. The facility will not require an NPDES permit for this type of discharge.

The major interactions between proposed RCRA Corrective Action and the CWA are in the Corrective Measures Study and Corrective Measures Implementation phases, as it is during these phases that corrective measure alternatives are being evaluated, selected, and implemented. Corrective measures must be planned by identifying and knowing the permitting requirements. Factors that need to be considered are:

- Point source discharges from a RCRA-permitted facility must be pursuant to an NPDES permit;
- The impact of the additional discharge from the corrective measure on the facility's ability to comply with the terms of an existing NPDES permit or with pretreatment standards;
- Sludge resulting from wastewater treatment and pretreatment under CWA may be a RCRA waste and must be managed according to the appropriate RCRA requirements; and
- The ability of the receiving POTW to treat the waste.

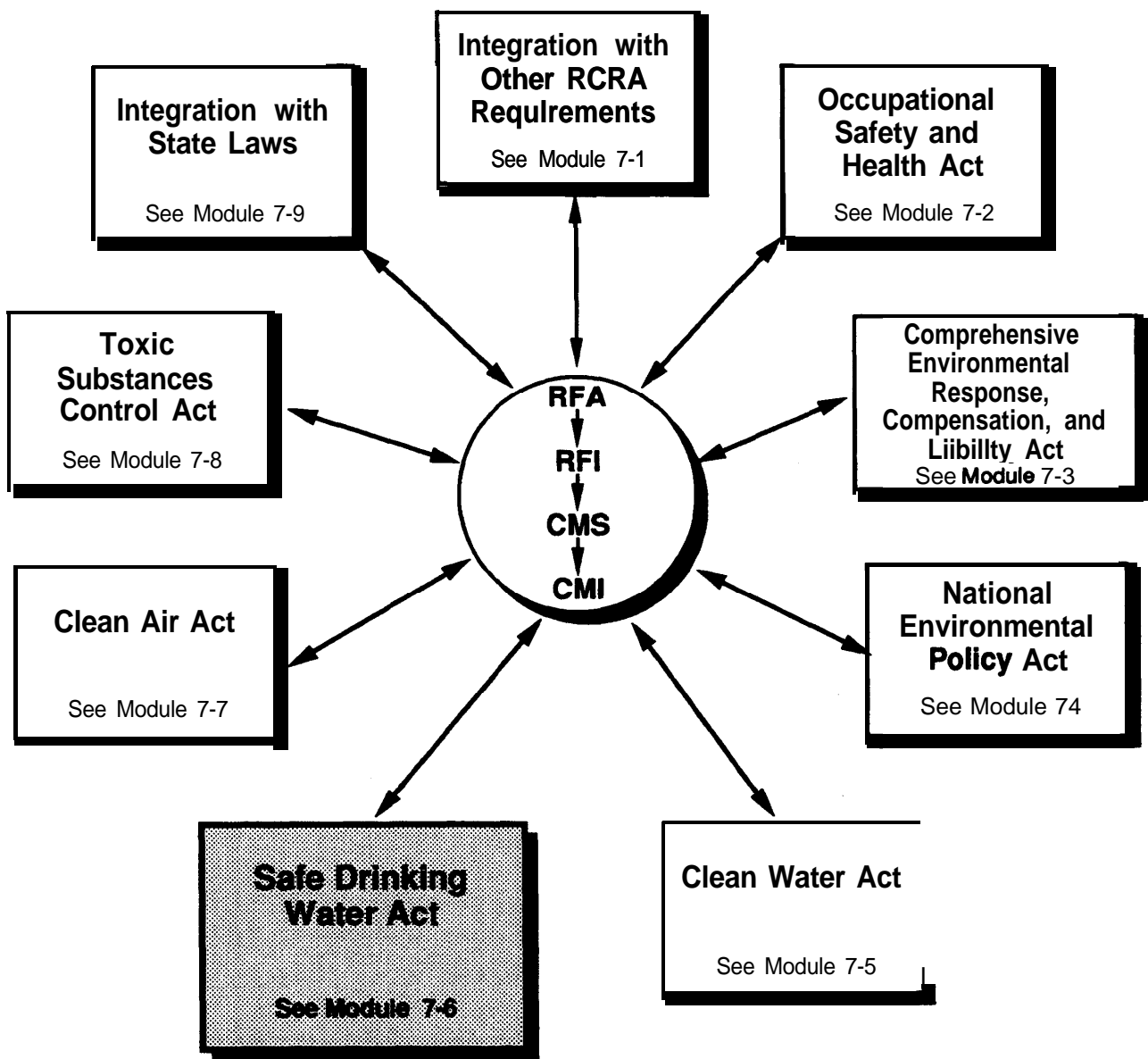
#### **Storm Water Discharges**

Discharges of storm water that run off a solid waste management unit (SWMU) are also subject to the Clean Water Act. Recently, EPA published a Final Rule (55 FR 47990, November 16, 1990) establishing the requirements for permitting discharges of storm water. Under these rules, industrial facilities (including waste management facilities) are required to apply for a storm water discharge permit (a type of NPDES permit) before October 1, 1992. In addition, such facilities are required to treat the storm water by BAT in the same manner as if it were any other point source discharge.

#### **Section 404 Permits for Dredge and Fill Operations**

The CWA §404 controls dredging activities and the disposal or placement of dredged or fill material in all waters of the U.S., including areas designated as wetlands. The CWA §404 permit program is administered by the Army Corps of Engineers. If a

RCRA corrective measure involves dredging contaminated sediments or an area of land classed as a wetland, or if the corrective measure involves disposal or placement of fill in such an area, the owner/operator will be required to apply for a CWA 0404 permit. Obtaining a CWA §404 permit usually requires preparation of an Environmental Impact Statement (EIS) for compliance with the National Environmental Policy Act (NEPA), and may take several months to be issued. If the corrective measure requires a CWA §404 permit, the time and resources to obtain the permit must be considered when developing the facility schedule of compliance.



**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-6 - The Safe Drinking Water Act**

# Module 7-6: Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was enacted in 1974 and extensively amended in 1986. The SDWA (as amended) created a program of Federal regulation of drinking water systems, established national standards for the quality of drinking water supplies, established a State-run program to regulate underground injection wells, and provided for the protection of sole source aquifers.

## Regulation of Drinking Water Supplies

The regulation of drinking water supplies and the creation of drinking water standards led to the promulgation of Maximum Contaminant Levels (MCLs) for various chemicals. The 1986 amendments to the SDWA revised the MCL program, and required EPA to establish National Primary Drinking Water Standards as well as Maximum Contaminant Level Goals (MCLGs). The National Primary Drinking Water Standards include establishment of MCLs for 83 compounds, including organics, inorganics, radionuclides, microbial populations, and turbidity. EPA has also established Secondary Drinking Water Standards for 13 additional parameters. The relationship of SDWA to RCRA Corrective Action is that the standards established under SDWA may be used to set action levels (the trigger for a CMS) and media cleanup standards (MCS). When conducting corrective action, the facility must consider these standards, and will undoubtedly use these limits in setting action levels and MCS.

## Underground Injection Control (UIC)

Under the UIC program, EPA was required to identify those States where regulation of underground injection was required to protect groundwater supplies. Underground injection is defined as the subsurface placement of a fluid through a well or dug hole that has a depth greater than its width. Each identified State was required to develop a program that would:

- Prevent underground injection unless authorized by permit or rule;
- Authorize underground injection only in areas where a permit applicant can establish that such actions will not endanger a drinking water supply; and
- Create a program for required records, reports, and inspections.

The program must protect aquifers that are, or may be reasonably expected to be, a source of drinking water from contamination in excess of an MCL. There are several restrictions on the implementation of the UIC programs, most notably those to prevent the UIC program from impacting the exploration and development of oil, gas, and geothermal energy.

At the center of the UIC program is a well classification system based upon the type of material injected. These classes are:

- Class I — Industrial and municipal disposal wells and nuclear storage and disposal wells that inject below all underground sources of drinking water in the area, and all hazardous waste injection wells other than Class IV wells;
- Class II — Wells which inject fluid for oil or gas recovery, and for storage of liquid hydrocarbons;
- Class III — Wells which inject fluid for the extraction of minerals or energy;
- Class IV — Wells which inject hazardous waste or radioactive waste into or above underground sources of drinking water; and
- Class V — Wells associated with energy development and all other injection wells, including septic tanks.

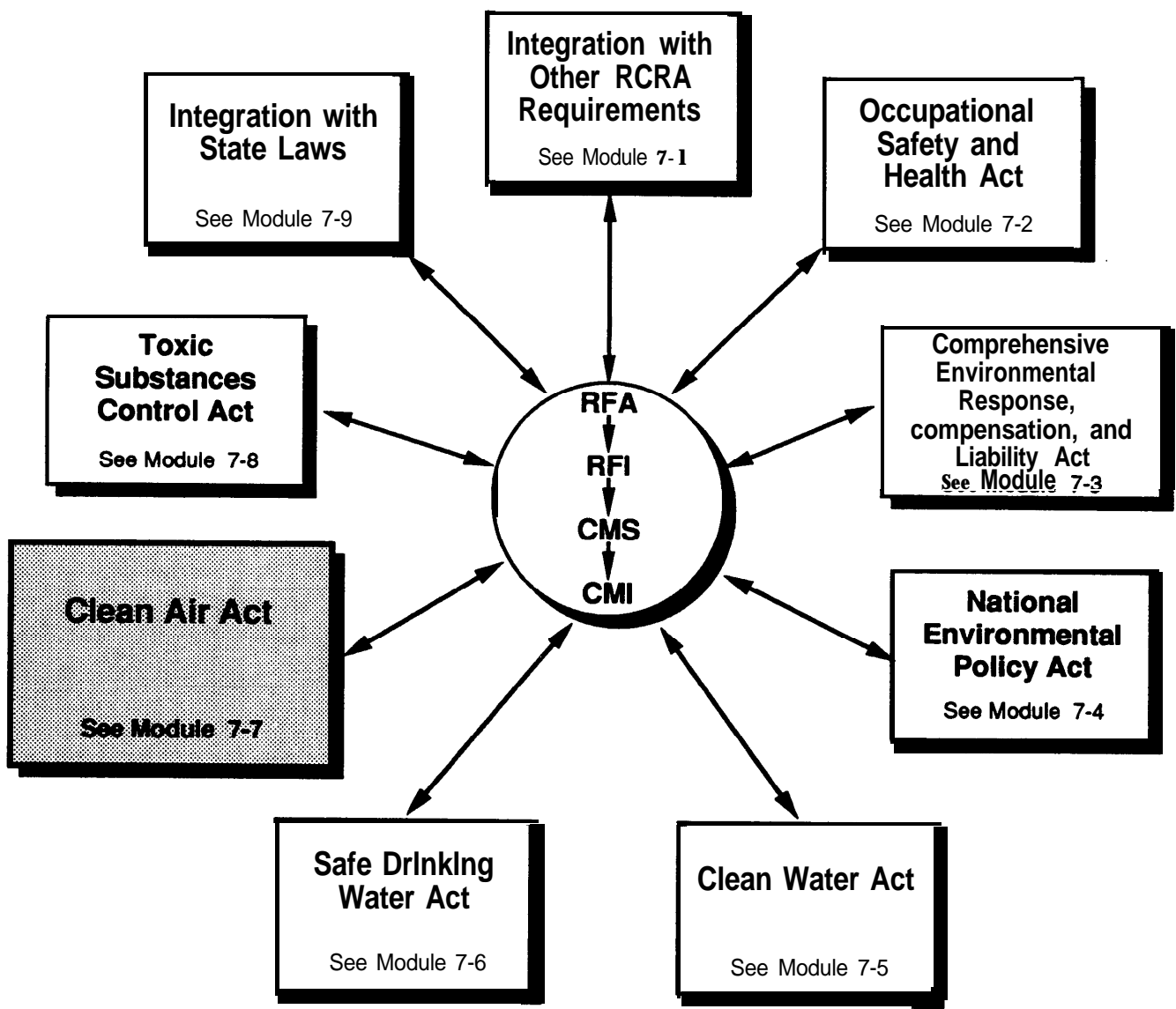
Currently Class IV injection wells are prohibited. Class V wells are not regulated at the Federal level, but certain States require permits.

A UIC permit is similar to a RCRA permit, in that it contains specific design, construction, operation, closure, and post-closure requirements. Since underground injection wells are often used for the management of solid waste, these wells are SWMUs and are subject to RCRA Corrective Action. Further, a facility seeking to dispose of hazardous wastes must determine if underground injection is a permissible means of disposal.

### **State Programs Under SDWA**

SDWA requires States to implement the national drinking water and underground injection control programs. EPA reviews each State's program for consistency and equal stringency and grants "primacy" to each State agency.

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**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-7 - The Clean Air Act**



# Module 7-7: Clean Air Act

The 1990 amendments to the Clean Air Act (CAA) were far reaching in nature, and impact heavily on the RCRA Corrective Action program. Until the regulations to implement the 1990 CAA are promulgated, the existing regulations remain in effect. Any facility with RCRA Corrective Action requirements must carefully assess the applicable regulations to determine if any revisions to the regulations for the Clean Air Act have been finalized. Rather than focus on the existing regulations (which will soon be revised) or the statutory requirements of the 1990 CAA, this discussion will focus on significant compliance issues.

It is incumbent on the owner/operator of any facility with RCRA Corrective Action requirements that may result in releases to air to coordinate with both the EPA RCRA program and the EPA Air program to determine areas of responsibility and the applicable requirements. This process will take place during the development of the Federal Facility Compliance Agreement (FFCA). All specific compliance issues should be resolved and the applicable requirements established in the FFCA.

## Permit Requirements

Unlike the remedial response program established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), neither the Resource Conservation and Recovery Act (RCRA) nor the proposed Subpart S rule exempts facilities implementing RCRA Corrective Action from requirements for permitting under other authorities, in particular the Clean Air Act (CAA). Under the 1990 amendments to the CAA, any facility which has *any* emission of a hazardous air pollutant falls under the CAA authority.<sup>24</sup> The 1990 CAA amendments also increased the list of hazardous air pollutants from 8 to 189. This list includes many compounds which are hazardous wastes or hazardous waste constituents under RCRA. Further, the 1990 CAA requires major sources to implement the Maximum Achievable Control Technologies (MACT) to reduce the quantity of hazardous air pollutants emitted at the facility. For area sources, EPA is required to study the problem of hazardous air pollutant emissions, and to assess which classes of area sources are of the greatest concern. EPA may then require area sources to implement Generally Available Control Technologies (GACT) to control emissions from this class of facilities.

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<sup>24</sup> Under the 1990 amendments to the Clean Air Act there are two classes of facilities. "Major sources" are stationary sources which emit over 10 tons/year of a single hazardous air pollutant, or over 25 tons/year of a combination hazardous air pollutants. "Area sources" are all stationary sources which are not "major sources." Thus any stationary source emitting any quantity of a hazardous air pollutant appears to fall under the requirements of the 1990 CAA.

## **Definition of Facility**

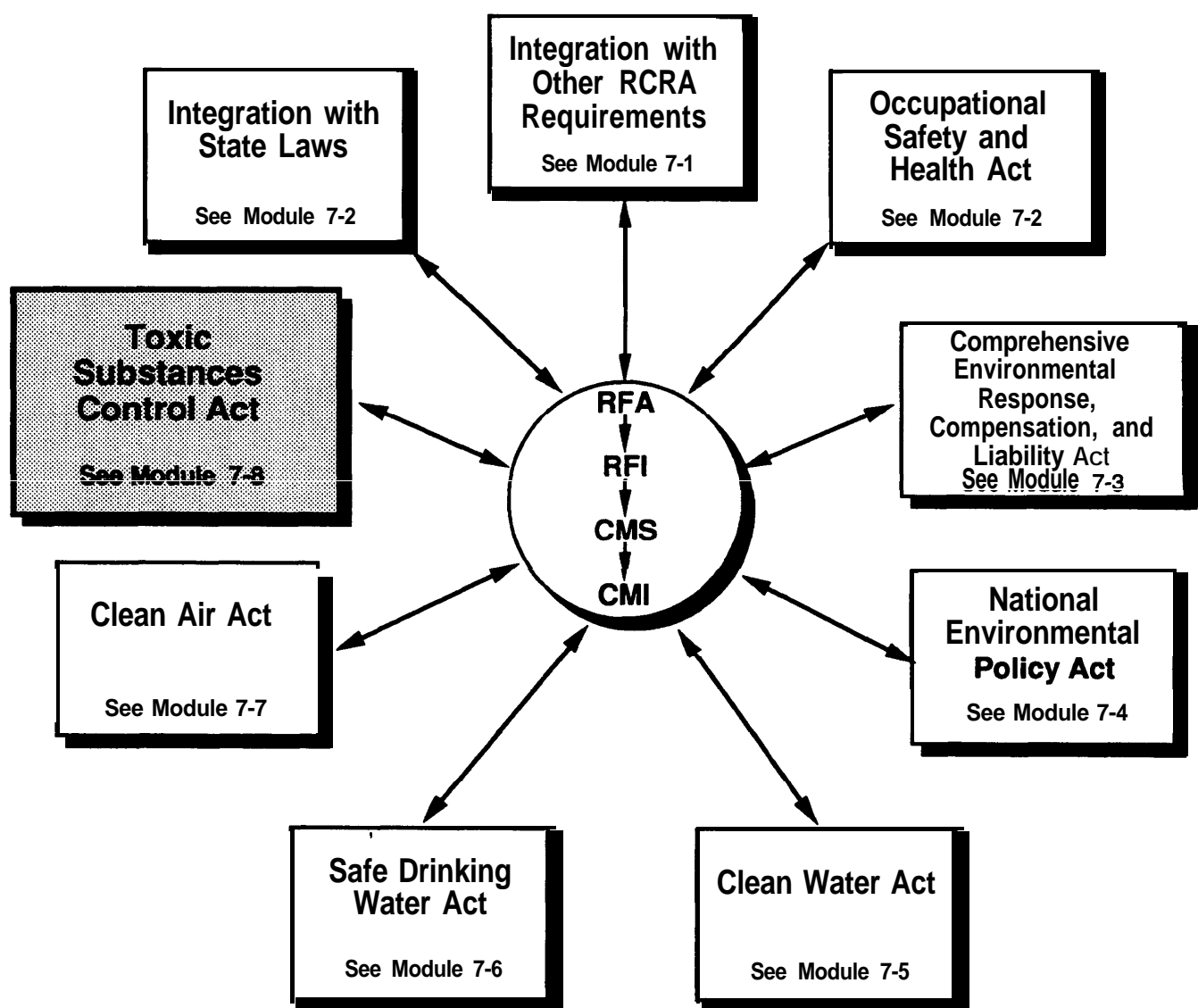
Currently EPA is considering a number of issues regarding the implementation of the statutory requirements for hazardous air pollutants in the 1990 CAA. One issue of great concern is the definition of "facility." The regulatory provisions of the CAA and the requirements of a CAA permit are generally applied to specific sources (e.g., an individual stack, process unit). However, EPA is considering adopting a RCRA-like definition of facility, based upon the concept of contiguous property. If EPA elects to adopt this definition, the total quantity of hazardous air pollutants emitted at a facility (resulting from corrective action and activities traditionally considered under the CAA) would be considered when determining the source category applicable to that facility.

## **Implications**

There are two implications for facilities with RCRA Corrective Action requirements or which are implementing a corrective measure under RCRA where emissions of hazardous air pollutants are possible. First, because there is no exemption from the CAA permitting requirements under RCRA it appears the facility may be required to obtain an air permit for emissions of hazardous air pollutants associated with a RCRA Corrective Action. Second, if the facility is classified as a major source, all RCRA Corrective Action activities (especially RCRA corrective measures) must meet the MACT requirements.

In addition, DOE facilities must comply with the specific requirements of 40 CFR §61 Subpart H - *Emissions Standards for Radionuclides Other Than Radon from DOE Facilities*. If a DOE facility's RCRA Corrective Action requirements involve radioactive or mixed waste, the impact of the corrective action on compliance with the CAA must be carefully assessed to prevent non-compliance.

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**Chapter Seven - Integration with RCRA  
and Other Environmental Laws  
Module 7-8, - The Toxic Substances Control Act**

# Module 7-8: Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 gave EPA the authority to require testing of chemical products currently in use and proposed for use, and provides EPA the authority to regulate chemicals where necessary. There are two principal program areas in TSCA: the premanufacture testing and notice process, in which chemicals are tested for potential impacts prior to their distribution in commerce; and the regulation of certain chemicals shown to pose a threat to human health or the environment. The most widely known chemical falling under the latter aspect of TSCA is polychlorinated biphenyls (PCBs).

## PCB Corrective Actions

The current TSCA regulations outline the provisions for the cleanup and disposal of PCBs and PCB-contaminated soils, sludges, and other debris at 40 CFR 761. However, the specific requirements for cleanup of a contaminated site are highly dependent upon the date of disposal of the PCB material. [For purposes of the TSCA regulations, a spill is considered disposal.] The following paragraphs describe the cleanup requirements for releases of PCBs as dictated under 40 CFR 761.

TSCA does not regulate contamination resulting from releases of PCBs before April 18, 1978, the date that the TSCA PCB disposal regulations became effective. For example, a spill of hydraulic fluid containing PCBs greater than 50 ppm onto soil that occurred in 1977 could be left in place and be considered properly disposed *under TSCA*. However, if the soil was excavated it would have to be properly disposed of (i.e., in a PCB chemical waste landfill or incinerator) within one year from the date of "removal from service" (i.e., excavation)). It is important to note that, although TSCA does not regulate spills occurring prior to April 18, 1978, other statutes do regulate such spills and may require cleanup according to the regulations established under that authority, for example, the regulations established under CERCLA or the RCRA corrective action or closure regulations.

For releases occurring after April 18, 1978, TSCA regulates the cleanup and disposal of PCB-contaminated media. Currently the TSCA regulations require that any PCB or PCB-containing item containing 50 ppm or greater PCB materials contaminated with PCBs from an original source containing 50 ppm PCB or greater must be disposed of in a chemical waste landfill or incinerator as specified in 40 CFR §761.60(a). The TSCA regulations (40 CFR §761(e)) also provide for alternate destruction methods for liquids containing PCBs at greater than 500 ppm, so long as they achieve a level of performance equivalent to incineration and they have been approved by EPA in writing. For liquids containing less than 500 ppm PCBs, the regulations allow the use of alternate destruction methods as long as they achieve destruction efficiencies at least equivalent to high efficiency boilers and have also been approved by the Regional Administrator(RA) in writing. There are other disposal provisions for dredged materials and municipal treatment sludges which also

require application to the RA. Based on the application, the RA may find that the prescribed disposal method for dredged materials and municipal treatment sludges will provide adequate protection to human health and the environment and if so, shall approve the use of the disposal method in writing. There are currently no provisions for alternate disposal methods for other solid PCB wastes.

Another consideration in the cleanup and disposal of PCB contaminated media is the effect of the "anti-dilution" provision (40 CFR 761.1(b)). This provision became effective on May 31, 1979, and applies to all PCB spills occurring after that date. This provision states that "No provision specifying a PCB concentration may be avoided as a result of any dilution, unless otherwise specifically provided." This means that the PCB disposal requirements for materials containing 50 ppm PCBs and greater may not be avoided by either accidental or intentional dilution. This provision does not prohibit dilution, but clearly does require diluted material to be disposed as if it was not diluted. If the PCB contaminated materials result from intentional or unintentional unauthorized disposal or a spill, where the original spilled PCB material was known to be greater than 50 ppm PCB, then all of the contaminated materials with measurable PCBs are regulated for disposal as though they contained 50 ppm or greater PCBs. For example, if a particular site was contaminated with PCBs at concentrations ranging from 20-35 ppm PCBs, but the source of the contamination was a spill of hydraulic fluid containing greater than 1000 ppm PCBs, the contaminated media must be considered to have PCBs at greater than 50 ppm and must be disposed of in a chemical waste landfill or incinerator as specified in 40 CFR 761.60(a). The "soils, rags, and other debris" provisions in the disposal regulations at 40 CFR §761.60(a) allows the disposal of these materials at any concentration in a PCB chemical waste landfill.

### **PCB Spill Cleanup Policy**

On April 2, 1987 (52 FR 10686), EPA published the nationwide TSCA spill cleanup policy encouraging rapid and effective cleanup and restoration of sites resulting from the release of materials containing PCBs at concentrations greater than 50 ppm. All spills occurring after this date are subject to the policy. The policy broadly defined the term "disposal" as including intentional as well as unintentional spills or releases and requires differing degrees of remediation depending on the:

- Spill location;
- Potential exposure to residual PCBs after cleanup;
- Concentration of the PCBs initially spilled; and
- Nature and size of the population potentially at risk of exposure.

The policy imposes the most stringent requirements on areas where there is the greatest potential of direct human exposure and less stringent requirements where there is little potential for any direct human exposure. The policy provides for exceptional situations that

may require additional cleanup or less cleanup at the direction of the EPA Regional offices.

Some spills are outside the scope of the policy, such as spills directly into surface water, drinking water, sewers, grazing lands, and vegetable gardens. "Old spills," those spills or releases occurring prior to the effective date of the PCB policy (May 4, 1987) are also excluded, and are handled on a case-by-case basis by the EPA Regional Offices.

### **Impact on RCRA Corrective Action**

If a RCRA treatment, storage, or disposal facility (TSDF) conducting corrective action discovers a PCB release from a SWMU, EPA will require that the release be addressed under the "old spills" provisions of the TSCA PCB spill cleanup policy unless it is documented that the "spill" occurred after April 2, 1987. If the "spill" occurred after that date, EPA will require cleanups as directed in the spill cleanup policy. The cleanup levels and practices discussed in the PCB policy are likely to be required; however, when necessary, EPA will conduct site-by-site evaluations. In addition, because PCBs are hazardous waste constituents listed at 40 CFR §261 Appendix VIII and 40 CFR 264 Appendix IX, EPA retains the authority to, and most likely will, impose requirements of the proposed Subpart S rule in addition to, or in place of, the PCB spill policy. In addition, a DOE Office of Environmental Guidance Memorandum titled *Remedial Actions at DOE Environmental Restoration Sites Contaminated with Polychlorinated Biphenyls (PCBs)* should be consulted. This guidance summarizes the existing regulations of TSCA pertaining to the remediation of PCB contaminated sites.

### **Regulation of Asbestos**

Asbestos is regulated under a variety of Federal environmental laws, including, but by no means limited to, the Toxic Substances Control Act (TSCA) (through the provisions of the Asbestos Hazard Emergency Response Act (AHERA)), the Clean Air Act (CAA), the Clean Water Act (CWA), the Occupational Safety and Health Act (OSHA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Resource Conservation and Recovery Act (RCRA). The important provisions of each Act as related to asbestos are summarized below.

Under AHERA, EPA was required to establish a program to regulate the inspection, management, planning, operations and maintenance, and abatement of asbestos in public schools. The regulatory framework for this program was set forth in an October 17, 1987 rulemaking often called "The AHERA-in-Schools Rule." In addition, EPA was required to conduct a study on the ramifications of asbestos in public and commercial buildings, and to submit a report to Congress on the findings of that study. EPA issued this report in 1988. In the report, EPA recommended that a regulatory program to address asbestos in public and commercial buildings not be developed at that time.

Employee exposure to asbestos fibers is regulated by OSHA. Under 29 CFR §1910.1001 and 29 CFR §1926.58, the permissible exposure limit for an 8-hour time-weighted average

exposure to asbestos in air is set at 0.2 fibers/cm<sup>3</sup> of air and the short-term exposure limit (STEL), averaged for a 30-minute sampling period, is 1 fiber/cm<sup>3</sup>. The OSHA regulations also govern other aspects of asbestos exposure in the workplace, and should be consulted as part of developing a health and safety plan (HASP) for any corrective action activities where asbestos exposure may occur.

Asbestos is also regulated under the CAA through the National Emission Standards for Hazardous Air Pollutants (NESHAPs). These regulations apply to those parties involved in manufacturing, building demolition or renovation, and waste disposal operations where asbestos might be released to the air. Under this program, asbestos is not regulated through specified emissions concentrations, but rather those parties conducting activities involving asbestos (e.g., removal of asbestos from buildings, or excavation of buried asbestos-containing wastes) must:

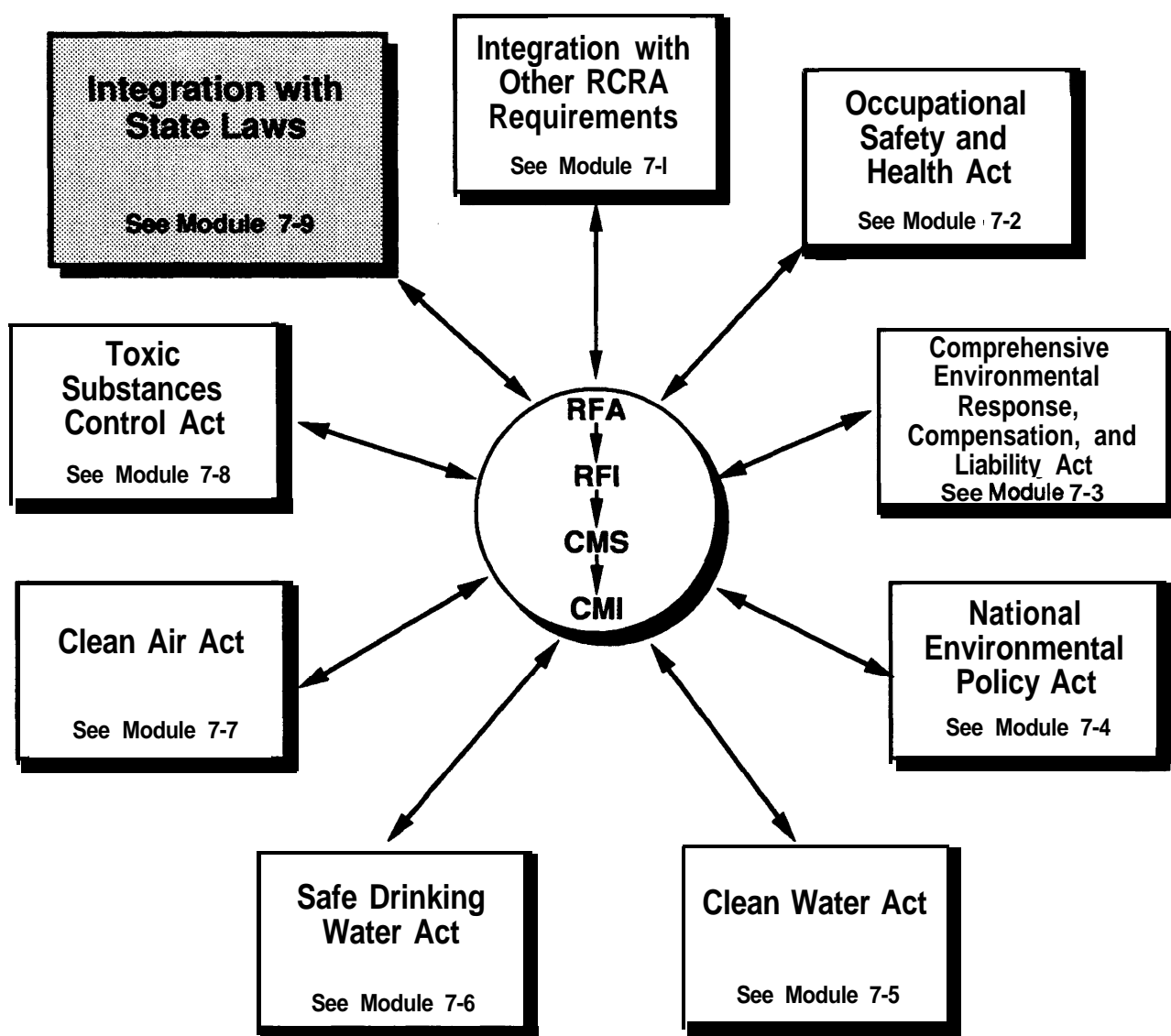
- Inform EPA of the activities;
- Follow specified procedures when removing asbestos;
- Adopt work practices that will prevent the release of asbestos; and
- Dispose of asbestos in waste disposal units that meet certain requirements.

Discharge of wastewaters contaminated with asbestos is regulated under the CWA. This probably will not create a compliance issue during corrective action, as few DOE facilities are likely to be discharging asbestos-laden wastewaters.

Under RCRA, asbestos is not a listed or characteristic waste. However, because the proposed Subpart S rule uses the statutory definition of hazardous wastes, and because asbestos has been shown to cause a variety of illnesses (e.g., asbestosis and mesothelioma), facilities with releases of asbestos fibers are potentially subject to RCRA Corrective Action to address those releases. A similar logic applied to the regulation under CERCLA, where asbestos was determined to meet the regulatory definitions of "hazardous substance" and "pollutant or contaminant." The proposed Subpart S rule establishes action levels and media cleanup standards for asbestos which will be applied to investigations and cleanups at RCRA facilities undergoing corrective action. In addition, asbestos wastes are solid wastes under RCRA, and must be managed in accordance with applicable Subtitle D waste management requirements.



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**Chapter Seven: Integration with RCRA and Other Environmental Laws**  
**Module 7-9 - Integration with State Laws**

# Module 7-9: Integration with State Laws

## Authorization of State Programs

Section 3006 of RCRA provides a mechanism through which EPA can authorize States to administer and enforce the RCRA program within the State. These provisions are codified at 40 CFR §271. However, EPA retains significant enforcement authority under RCRA §§3008, 7003 and 3013.

Prior to the passage of HSWA in 1984, a State with final authorization administered the RCRA hazardous waste program through State laws and regulations entirely in lieu of EPA administering the Federal program in that State. The Federal requirements did not apply in the authorized State, and EPA could not issue RCRA permits for any facilities in that State if the State had a permit authority that applied. As new or more stringent Federal requirements were enacted, the State had to enact an equivalent requirement under the State law to retain this authorization. Any new Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

Following the passage of HSWA, this last provision was changed. Under RCRA §3006(g)(1), new requirements and prohibitions imposed by HSWA (or subsequent changes) take effect in authorized States at the same time as in States without authorization. EPA is directed to carry out those requirements and prohibitions in authorized States, including the issuance of permits, until the State program is granted authorization to do so. The net result is that while a State must adopt HSWA-related provisions as State law to retain final authorization, any new requirement would apply under Federal authority in the interim.

Under the Federal Facilities Compliance Act (FFCA), States can now levy fines and penalties of a punitive or coercive nature against Federal facilities that fail to comply with State laws governing the management of hazardous or solid wastes.<sup>25</sup> In addition, States will also have the ability to charge oversight fees to Federal facilities that operate under State-issued permits.

## State Authorization for Subpart S

Once Subpart S is promulgated as a final rule, EPA will implement regulations in authorized States until:

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<sup>25</sup> Section 102(c) of the Federal Facility Compliance Act contains a provision that for a period of 3 years from enactment (i.e., until October 6, 1995), under specific circumstances, fines and penalties cannot be assessed against Federal facilities for violations of the storage requirements of RCRA §3004(j) — *Storage of hazardous waste prohibited from land disposal* which involve radioactive mixed waste.

- The State modifies its program to adopt a program that is at least as stringent as the Federal Subpart S regulations, and the State receives final authorization from EPA to begin implementing the corrective action program; or
- The State receives interim authorization for the Corrective Action Program.

Because the proposed Subpart S rule stems from a HSWA requirement, a State submitting a program modification may apply to receive either interim or final authorization under RCRA §§3006(g)(2) or 3006(b), respectively, on the basis of requirements that are equivalent to the final Subpart S rule. EPA has proposed an expedited process for granting this interim authorization to States already authorized for corrective action as a result of the initial codification of RCRA §3004(u) (see 50 FR 28747, July 15, 1985). This expedited process does not involve a detailed review of the State regulations, but is based on determining that the State's regulations are equivalent to the Subpart S rule. Any State applying for interim authorization would be required to implement a corrective action program according to the Subpart S requirements. Of particular importance is the requirement that permits issued by the State must reflect the Subpart S requirements, even if the State has not adopted regulations equivalent to the Subpart S requirements.

40 CFR §271.21(e)(2) requires that authorized States must modify their program to reflect changes in the Federal program, and that these modifications are subject to EPA approval. The deadline by which a State must modify its program to adopt Subpart S hinges on the date of promulgation of the final rule. In addition, under 40 CFR §271, a State seeking authorization for corrective action under Subpart S must demonstrate the ability to implement the base RCRA program as well as the additional HSWA elements. Those States that received authorization for HSWA corrective action pursuant to the initial codification of RCRA §3004(u) will no longer be authorized when the final Subpart S rule is promulgated, unless the State receives interim or final authorization before the effective date of the final rule.

Some States with an authorized base RCRA program, but which lack corrective action authorization, may have requirements under State law similar to those in the proposed Subpart S rule. These States are allowed to continue to administer and enforce these standards as a matter of State law.

### **Corrective Action and Radioactive Mixed Waste Authorization**

On July 3, 1986, EPA published a notice that, to obtain and maintain authorization to administer and enforce a hazardous waste program under RCRA Subtitle C, States must also have authority to regulate the hazardous component of radioactive mixed wastes (51 FR 24504). Radioactive mixed wastes are those wastes that contain hazardous waste subject to RCRA and radioactive wastes subject to the Atomic Energy Act (AEA). Radioactive mixed waste (except for the component subject to AEA) is considered to be a solid waste for purposes of corrective action at SWMUs. Therefore, in order to have an authorized corrective action program, a State's program must define

solid waste in such a way as not to exclude the non-AEA components of radioactive mixed waste. This requirement thus enables States to apply their corrective action authorities to radioactive mixed waste containing SWMUs.

### **Implementing Subpart S Under State Programs**

Facilities conducting corrective action are required to comply with all applicable State requirements under State and local statutes, regulations, and ordinances. As described above, States may have authorization to implement the corrective action requirements of HSWA. These States (as of January, 1993) include:

- |              |                  |
|--------------|------------------|
| • Arizona    | • Nevada         |
| • Arkansas   | • New York       |
| • California | • North Carolina |
| • Colorado   | • North Dakota   |
| • Georgia    | • South Dakota   |
| • Idaho      | • Texas          |
| • Illinois   | • Utah           |
| • Minnesota  | • Wisconsin      |

It is beyond the scope of this document to provide a detailed discussion of how a facility integrates State corrective action requirements into its environmental restoration programs. However, it is imperative that the facility consult with State and local officials to determine what actions, if any, must be undertaken to ensure compliance.

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*The National Environmental Policy Act (NEPA) 42 U.S.C. §4321 et seq.*

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42 U.S.C. §6901 et seq.

*The Toxic Substances Control Act (TSCA) 15 U.S.C. §2601 et seq.*

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